

# ARMED FORCES

ARMY • NAVY • COAST GUARD  
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## MANAGEMENT



### Feature

*Developing Management Capability Today—For Operational Requirements of Tomorrow—by Gen. Nathan F. Twining*

### Departments

- *What's New in Suggestions?*
- *Washington Management*
- *Conservation Thoughts*
- *Service Schools*
- *News Briefs from the Services*
- *Book Reviews*
- *Letters to the Editor*
- *News and Activities of Armed Forces Management Association*
- *Cost-Cutting Products*

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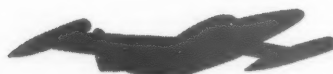
In the air arm of the services longer than most pilots have had birthdays, General Nathan F. Twining's inexhaustible knowledge and experience have brought him international recognition and acclaim. Assigned to the air service five years following graduation from West Point, in 1917, he has had numerous assignments. General Twining's outstanding leadership, ability and comprehension of the many Air Force responsibilities make him ideally suited for Chief of Staff, USAF. We are happy to present his feature in this issue.

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JANUARY, 1955

# ARMED FORCES

ARMY • NAVY • AIR FORCE • MARINES

# MANAGEMENT

Volume I

JANUARY 1955

Number 4

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## New Year Greetings and Thanks

*"Faith is the force of life."—TOLSTOY*

The publisher and staff of ARMED FORCES MANAGEMENT face this New Year of 1955 with augmented faith and unbounded enthusiasm.

Our subscribers, circling the globe, have evinced unstinted faith in our publication and its acceptance by all echelons, of all services, has been nothing short of phenomenal.

We supplement our sincere best wishes that you may have a happy and prosperous New Year, with an expression of wholehearted thanks for your faith in us.

Too, we send heartiest greetings, for a splendidly opulent New Year, to the advertisers who, in pioneering with us, manifested their faith; our publishers' representatives, whose faith activated service far above and beyond their duty and, last but not least, the entire staff of Kable Printing Company. Printers of one hundred and thirty-seven magazines, this huge organization, employing highly-skilled artisans, has made ARMED FORCES MANAGEMENT a distinct credit to the graphic arts.

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**Chief of Staff  
United States Air Force  
GENERAL  
NATHAN F. TWINING**

# Developing Management Capability Today -- For Operational Requirements of Tomorrow

**by General Nathan F. Twining**

AIR FORCE management is challenged every day: new developments — new requirements — new tasks; but limited manpower — limited materials — limited dollars. The Air Force must adjust to advancing technology and the changing requirements of a global strategy. These factors place ever increasing demands on the skill, knowledge, performance, responsibility and integrity of Air Force managers if we are to make our full contribution to the military strength and readiness of the Nation. We, along with the other services, cannot afford "intuitive" or haphazard management.

When I speak of Air Force managers, I am not referring to a small group of people or any one organizational level. Our managers include our commanders, deputy commanders, chiefs of staff, and supervisors at all levels who must see to it that results are achieved through the efforts of subordinates. Each one has an important part to play in meeting the challenge. The success of any one of them depends a great deal on the effective action of the others.

What does this challenge require of our managers? They must basically seek to achieve a maximum Air Force capability within our objectives through their own efforts and the efforts of others. They must further achieve results with a minimum drain on Air Force and national resources. Their actions must reflect an awareness and understanding of the whole Air Force picture with its many interrelated parts, and their efforts must contribute to the whole. This awareness among our managers is essential regardless of function or organizational level. Their efforts must also reflect an understanding and application of sound management concepts and practices.

The proof of success of management is operational effectiveness. Even the most logical organization charts, planning schedules, manning documents, and other managerial devices are worthless unless they do the job they are intended to do. Introduction of theoretically "good" managerial devices which do not produce the desired results may even be dangerous, because they suggest that things are being done well, simply because the organizational element operates under such "good" management.

To meet the challenge, the Air Force requires carefully conceived objectives and long-range decisions in all key areas. Good planning and programming should become second nature to Air Force managers. Maximum flexibility and the ability to anticipate future events are important. As we must anticipate technological and scientific developments and be ready to integrate many changes at a moments notice, managers at all levels must be able to make decisions which

adapt the whole process to new circumstances, changes and disturbances, and yet maintain their operation as a going process.

The Air Force manager will have to acquire a new set of tools or methods and procedures—many of which he will have to develop himself. He must acquire adequate yardsticks to measure performance and results in our Air Force functions. He must acquire knowledge of the economical way of doing things to make meaningful plans today for a long range tomorrow, and of great importance, he must acquire the art of the decision making process.

We can summarize by saying, that the manager of tomorrow must acquaint himself with the following tasks:

1. He must manage with clear objectives.
2. He must take more risks and for a longer period of time. He must be able to establish in advance what may happen and to "control" his subsequent course of action as his expectations are proven true or false.
3. He must be able to make sound decisions.
4. He must be able to build an integrated team, each member contributing a part to the objective.
5. He will have to be able to communicate information fast and clearly, also be able to motivate people into cooperative participation.
6. He will no longer be expected to know only one or two functions, rather the manager of tomorrow must be able to look at the Air Force as a whole and be able to integrate his function whatever it may be.

How has Air Force management been meeting the challenge to its capabilities? A comprehensive answer is not possible here, but certain examples are significant. In over-all terms, the challenge was intensified two years ago when our 143 combat wing program, personnel spaces and funds were cut. This challenge has been met, and today we are operating under a 137 wing program, with over 300,000 less personnel spaces than programmed for the 120 wing cutback program.

To accomplish the above, many changes were necessary; new methods, policies, procedures and decisions were developed and made. We decentralized responsibilities and operations to achieve greater economy without impairing effectiveness. For instance, the development of manpower and materiel requirements has been decentralized to a greater extent.

The Decentralized Management technique was adopted by the Air Force to give it the flexibility and mobility necessary to meet each challenge as it appeared. Being a new arm of the services, we came under close scrutiny. As a result, acting in the role of fireman, we had to be able to put out small fires, fast and often, before they could become major problems. Small, well-trained management staffs at all echelons was the answer and this system has paid off. Management, being everybody's business, has created a "cost

consciousness", "do it better", attitude in the Air Force which is second to none.

Because of the now demonstrated ability of the Air Force to stand on its own feet and do a real management job, the Department of Defense authorized the Air Force to use funds and spaces it could save, against the imbalance of future programs, and for the activation of combat ready units at a faster rate than originally planned.

With this in view, we embarked on a program of self-analysis to determine soft spots and to develop new and better ways of doing things. First we looked at administrative requirements in our headquarters functions. Next, into dual supervision and then into such indirect support functions as, Air Police, Food Service, Bands, and civilian requirements by bringing into focus employment to current workload rather than programmed workload. The results of these reviews led to the establishment of such projects as "Native Son", designed to utilize foreign national personnel in overseas areas in support functions, thereby relieving military and Air Force civilian personnel for assignment into primary mission duties. Other projects, such as "Home Front" and "Reverse English," were established to utilize civilians for military for stability in some areas and substituting military for civilian spaces in other career fields. All of the above actions are designed to achieve the optimum utilization of all categories of available manpower resources.

Next we looked into our Materiel and Maintenance functions. Project "IRAN (Inspect and Repair as Necessary)" was instigated which put emphasis upon performing only necessary repair to equipment to keep it in reliable operating condition.

Since the Air Force Motor Vehicle fleet represented a dollar inventory second only to aircraft, a reduction of vehicles was effected, a new maintenance program was put into effect, vehicle purchase was standardized to effect interchange of vehicles and parts between Air Force and Army. This project alone saved several million dollars.

In the supply function the Local Purchase Program was established whereby thousands of our quantity stocked line items were placed on a local purchase or as needed basis. This action saved tremendously in shipping, handling, storage time and money.

In our reclamation and salvage functions many improvements and savings were effected. For example, cleaning solvent used in washing aircraft is now reclaimed and re-used, and way of extracting silver from photo bath in X-Ray and Photo laboratories have been found and are in use.

Our Financial Management System focused attention on the use and consumption of resources. Our resources being reduced to a common denominator—the dollar.

The basic objective of this system is to aid operating managers by providing various management controls, such as: (1) Full disclosure of financial results which are to be compared with operating budgets, (2) Financial information required by management in terms of resources consumed, (3) Financial information necessary in the preparation and support of operating budgets and requests for appropriations, (4) Means of relating "resources on hand" to past, present, and

future programs, and (5) Effective control over and accountability for all funds, property, and other assets.

A significant improvement in our supply system has been achieved by decentralizing the authority to determine quantitative equipment requirements and by the establishment of one equipment authorization document for each Air Force Unit. The new procedures have increased our capability to determine realistic equipment requirements and insure effective control and utilization Air Force wide.

Another system developed was the Unit Manning Document System which is a single manning document for military, civilian and native personnel in accordance with Standard Air Force Functions. This system will afford more direct participation at all command levels in the development of manpower requirements and will permit improved evaluation and analysis of Air Force functional performance by relating manning, equipping and financial data by functions.

In our Personnel system such actions as stabilizing tours of duty, extending overseas tours of duty, combining training moves with overseas rotation; all contributed to our objective.

In our training program, courses at the Air University were streamlined, special management courses were established in our Universities and colleges such as George Washington, Harvard, Pittsburgh, University of Chicago and others. For Airmen, the on-the-job training program was stepped up, special "Packaged" training courses for airmen skills were developed for up-grade training and a new base-level management training program is underway for military and civilian supervisors.

The Air Force Management Improvement Program has contributed greatly. The vigorous application of constant stimuli through the Incentive Awards Program has created an ever awareness of the fact that we must continue to improve. This awareness is constantly kept before our managers through the publication of the Air Force Summary Sheet and Management Improvement Reading Packet.

The Air Force goal—better National Defense—better utilization of its resources—more Air Force per Dollar are being achieved. New challenges will arise; today we are better equipped to meet them.



The aircraft industry today is the largest manufacturing employer in the United States, according to Planes, official publication of the Aircraft Industries association. The nation's plane manufacturers have surpassed the automobile industry (long the leading U.S. Manufacturing employer) in total manpower, with more than 823,000 workers, the magazine reported.

Planes estimated that, including families of workers, approximately 1,900,000 Americans are directly dependent upon the aircraft and parts payrolls.

# Management and AIR FORCE PROCUREMENT by

**Maj. General David Hodge Baker, USAF**

**Director of Procurement and Production  
HQ Air Materiel Command**



**Director  
of  
Procurement  
and  
Production  
HQ Air Materiel  
Command  
MAJ. GEN.  
D. H. BAKER**

"THE mission of the Air Materiel Command is to provide overall logistical support for all activities and agencies of the Air Force, to provide, establish, and control adequate, efficient, and up-to-date systems of procurement, identification, production, quality control, maintenance, transportation and traffic management, and supply and disposal for all aspects of logistics support for complete aircraft weapons systems in, or programmed for, the Air Force inventory." (Air Force Regulation 23-2) "Management comprises those acts of planning, organizing, coordinating, and directing the operations necessary to accomplish the assigned mission" (AMC Regulation 20-15).

This in plain words, gives the Air Materiel Command the responsibility to provide the nation with effective airpower exactly on the schedules established by national policy. It delegates to the Air Materiel Command management responsibilities to successfully carry out this mission. It gives the Air Materiel Command a responsibility to the taxpayer to provide such airpower with the greatest possible economy, and with the least disruption of the way of life we are working to defend.

The Air Materiel Command has often been called the biggest business in the world. Its annual expenditures are larger than the combined annual expenditures of the two largest American industrial concerns. In order to effectively execute our mission, it is of

paramount importance that we strictly adhere to sound management principles, and that we apply those principles wherever and whenever necessary.

The Directorate of Procurement and Production, as the "buying branch of the Air Materiel Command", has staff direction of the efforts of some 12,000 civilian specialist — purchasing agents, production specialists, administrative assistants, contracting officers, lawyers, accountants, management analysts, secretaries, clerks, and many others. Some 750 Air Force officers supervise the activities of this large civilian group, distributed in offices located throughout the United States.

Headquarters, Air Materiel Command, at Wright-Patterson Air Force Base, near Dayton, Ohio, is the "Home Office" of this large organization. It is here that supervision of the logistic support of the strongest Air Force in the world is executed. It is here that policies and programs are developed which are responsible for procuring, supplying and maintaining American Air Power.

The Directorate of Procurement and Production is organized along the lines of a large industrial concern. A number of staff offices and deputies assist the Director in managing this vast organization. The deputies, which were created under a recent reorganization, have duties similar to those of vice presidents in industry.

The Deputy Director/Procurement is responsible for staff surveillance over all Air Force purchasing activities world-wide, including field procurement, local purchase of other major Commands, and research and development procurement activities.

The Deputy Director/Production has the responsibility for staff surveillance over all Air Force production functions, world-wide, including AMC field production, and major continental and overseas commands. The Deputy has also overall surveillance over manufacturing resources, such as machine tools, facilities, manpower and materials, in support of current production programs.

The Deputy Director/Mobilization Planning is responsible for receiving, evaluating, and disseminating mobilization requirement production schedules, so



that, in the event of war, all necessary resources can be made available on short notice.

Six operating divisions, directly responsible to the Director, and, in their respective procurement, production, and mobilization phases, also responsible to the deputies, carry out the enormous task of procuring the airplanes, services, and materials which keep us superior in the air. These divisions are: Aircraft; Aeronautical Equipment; Airlines, Maintenance and Service Contracts; Industrial Resources; Readjustment; and Support.

Thus, staff and operating functions are clearly separated. This permits excellent control, and establishes maximum delegation of authority and responsibility. It also creates one central point of contact for procurement, and one central point for production activities. Increased emphasis is placed on surveillance of worldwide Air Force procurement activities, and on a smooth flow of operations to the field organizations located all over the United States, and overseas.

Another application of sound management principles has been the decentralization of procurement of a large number of commodities for which procurement actions originally were handled through Headquarters, AMC. The decentralization program, which was started in 1952, had become necessary to assure continued successful operation of our mission. Our headquarters had become overloaded with paper work; housing conditions in Dayton area were critical; the recruiting of experienced personnel had become difficult. That is when we decided to screen our procurement processes. Taking a lesson from industry, we decentralized, to the vast net of Air Materiel Areas and Air Force Depots, the procurement of commodities other than aircraft, engines, and such items requiring extensive engineering testing. Today, more than two years after the inception of the program, leaders in both Government and industry wholeheartedly agree that it has streamlined procedures, aided contractors, and improved operations to such an extent that the initial expense of the program is more than justified.

Our job, at headquarters, remains a most vital one. The procurement of the weapons which make our Air Force the strongest in the world, is still being accomplished at Wright-Patterson. This is mainly due to the physical location at this base of the Wright Air Development Center, a branch of the Air Research and Development Command. Good management principles are being applied daily in the joint operations of the two Commands. In the joint project offices, known as Weapons Systems Project Offices (WSPO), critical decisions are being made daily, balancing economic feasibility with technical excellence. The WSPO manages the development and procurement program of an airplane, from its inception on the drawing board, to its delivery to the using Command. The WSPO achieves proper phasing of action pertaining to development, procurement, production, maintenance and supply, in order that the weapons system can be delivered and supported in a timely manner. Executive management responsibility is clearly established during all phases of the weapons system development and production. Air Research and Development Com-

mand is the executive agent during the development stages, serving in this capacity at the start of a new project. Responsibility shifts to Air Materiel Command when the weapons system goes into the production phase.

Staffed by experienced and competent engineers, procurement and production specialists, the Weapons System Project Office must schedule, initiate and administer programs for the development, testing and production of a weapons system and its components. It must call on any Air Force Command with a vested interest in the weapon to provide necessary specialists when studies or recommendations are needed. It must keep close contact with industry, and serve as the single point of contact for a weapons system contractor in his dealings with the Air Force on development and production. It must keep top echelons fully posted on matters that may interfere with the Air Force's objectives. This covers such items affecting the weapon system's utility in combat, delivery schedules, logistic support, tactical capabilities, and the Air Force-industry relationship.

There are many other fields in which Air Materiel Command has followed, and often been a leader, in good management principles. Controlling and directing the more than 160,000 military and civilian personnel, located in all four corners of the globe, is an ever-lasting problem. Recent austerity measures have cut personnel strength, while the workload of the Command has increased steadily. Career development programs, similar to those in industry, have increased the efficiency of those people carrying the burden. An executive development program, both for Air Materiel Headquarters, and the field organizations, has brought prominent speakers to address executive personnel at regular intervals. The Management Improvement and Suggestions and Award programs have resulted, not only in tangible awards to employees, but—and this is much more important—have saved the Command millions of dollars, and have improved operations a thousandfold. Management awards, given to those field organizations with outstanding records, have stimulated working conditions, and have resulted in improved procedures for the Command. The employment of management experts and specialists has aided immeasurably. General Edwin W. Rawlings, the Commander of Air Materiel Command, is a graduate of the Harvard School of Business, and so are many of his top executives.

Successful Government is successful management. Good management is good teamwork. Only by applying those lessons that we have learned from industry and government agencies alike will we be able to assure the American taxpayer that his dollar will buy the aerial weapons that keep his country strong. With industry and government working hand in hand, and with full cooperation of all members of the team, we will be able to be prepared against our potential enemies. Managing our resources to insure sufficient strength to subdue an enemy is of vital importance in this grim business. The next war could be decided in a matter of hours or days. In all our thinking and planning we must never lose sight of this possibility. Only if we all pull together in this great struggle, will we be assured of ultimate peace and victory.





## How Western Union Gets Things Done

by

Walter P. Marshall



Western Union's  
Thirteenth President  
WALTER P. MARSHALL

EVERY management, in business or in government, is necessarily concerned with the problem of how best to get things done. In Western Union, however, the problem does not stop there—the telegraph business, by its very nature, demands that Western Union's management be constantly preoccupied with devising ways and means to help others get things done, faster and better than ever before.

To the American economy, which has become the most powerful and effective system for doing and making things that the world has ever known, the telegraph is a vital instrument for the efficient conduct of the nation's everyday business affairs, and is essential to the smooth functioning of the country's governmental and military services. The movement of produce from farm to market; of products from producer to consumer; of orders and reports among governmental and military agencies; the transmission of financial and commodity exchange data; of news; of weather information and reports; all these, and a thousand others, are affected by how the telegraph company does things. Since getting things done in Western Union is inseparable from helping others to get things done, I shall deal with both in this discussion.

### Company Organization and Managerial Techniques

A question of primary interest to every management has to do with the structure of its own managerial function, and that of the organization as a whole. The duties of the various parts that make up the whole must be clearly delineated; responsibilities must be firmly assigned; planning of operations that will affect more than one segment of the organization must be effectively coordinated; and channels must be established for the orderly movement of information up and down the line.

Western Union, whose plant, personnel, and operations extend to every part of the nation, is organized along functional lines; each major function of the business is carried on by a separate department, the head of which is responsible for all phases of its operation.

These major departments consist of the following:

- Operation
- Plant and Engineering
- Development and Research
- Accounting
- Public Relations and Revenue Requirements
- Employee Relations
- Purchasing and Stores
- International Communications

For purposes of field administration, the country is divided into six geographic units, or "divisions," each of which is in charge of a line officer who is responsible for all the functions of his department within the division. The General Manager, for example, is responsible for operations and sales; the Division Auditor for accounting; the Plant Superintendent for construction and maintenance; etc.

The organization of the Operating Department extends right down to the local level, which is made up of the public offices and agencies that serve the company's customers. A City Superintendent is responsible for the company's operations in each of the nation's 77 largest cities, while District Superintendents have charge of offices at the smaller cities. Each district office is headed by a Manager, who reports to the superintendent of his district.

By means of this organization, management has been able to assign responsibility for getting things done throughout the entire managerial structure, and to provide itself as well with facilities for receiving up-to-the-minute reports on the company's far-flung operations.

At the top of Western Union's managerial structure is the Board of Directors, which meets once a month, and is made up of 21 members, including the President and the Vice President and Assistant to the President. The Executive Committee, which exercises all the powers of the Board of Directors in the interval between meetings of the Board, meets weekly. Each director who is not a member of the Executive Committee attends a number of its meetings on a rotational schedule.

Western Union's top management team is the Operating Committee, which is responsible for integrating the company's operations in accordance with the overall policies adopted by the President and the Board of

### "WHAT HATH GOD WROUGHT?"

First telegraph message sent by inventor Samuel F. B. Morse, from Washington to Baltimore, on May 24, 1844.

Directors. The Operating Committee has for its Chairman the Vice President and Assistant to the President, and is made up of the company's vice presidents and the heads of other major departments.

The Committee has specific responsibility for:

(1) The development, promulgation and control of operating expense and revenue budgets, designed to meet the public need for telegraph service and the company's financial requirements.

(2) The conduct of operations within the limits of expense provided for in the approved budgets, and the development of revenues to meet budgetary requirements.

(3) The development of rates for services offered by the company.

(4) The development of capital expenditure programs and budgets, the effectuation of approved capital programs and the control of capital expenditures.

(5) Research and planning for future operations and to meet future problems, and the effectuation of approved plans for conducting current and future operations.

(6) Personnel policies and personnel requirements.

(7) The institution of such new and improved procedures as may be necessary to carry out the company's objectives and policies.

The Operating Committee meets each week, for interdepartmental discussions of progress in meeting budgetary goals and to consider other over-all operating matters.

The place of the Operating Committee in the organizational structure of the company is indicated in the accompanying organizational diagram.

To insure that the company's planning activities are properly integrated, the Operating Committee some years ago established a Planning Committee, whose function is to develop and submit, for Operating Committee review and approval, plans and programs designed to bring about improvements in the company's services, operations, and revenues.

The planning activity in each department is a major staff function, completely divorced from operational assignments and duties. The company planners are thus left free to devote themselves entirely to projects involving the areas of improved methods, procedures, equipment, and revenues. These projects are coordinated by the Planning Committee, which consists of

the staff heads of each departmental planning section, headed by a representative of the executive office who is also a member of the Operating Committee.

The Planning Committee's purpose is to assure coordination of planning objectives, to collaborate on the execution of planning projects that cross departmental lines, and to establish appropriate priorities for the various planning projects under consideration.

The planning function covers all phases of Western Union's plant, operations, sales and administration, including the preparation of studied recommendations with respect to an adequate program of technological research and development; a sound program of capital improvement; the improvement of methods and rate structures; the evaluation and improvement of sales programs; the improvement of old services and the development of new ones to meet the public's requirements.

Management's direction of the company's operations is firmly implemented through a system of budgetary controls that affect every phase of its activities. These controls are exercised through the Capital Expenditures Budget and the Operating Budget, which take into account expected developments both within and without the company, and set down the company's objectives for the months and years to come.

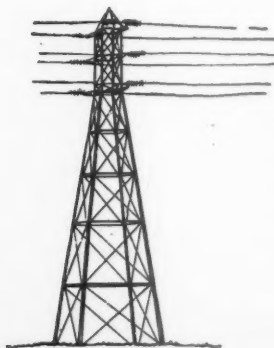
The Capital Budget is prepared over 12 months in advance of the year to which the proposed expenditures will apply. It is first submitted in tentative form to the Planning Committee, for review and consideration with respect to long range objectives, the degree of necessity for each project, economic justification of the various projects involved, the availability of funds to finance the over-all program, etc. After appropriate action by the Planning Committee, the budget is formally submitted to the Operating Committee for its consideration and recommendation to the President, and for final approval by the Board of Directors.

The Operating Budget procedure falls into three categories: a 12-month revolving budget; monthly forecasts of operations; and weekly estimates of the current month's operating results.

The 12-month revolving budget is prepared four times a year (by each major company unit, and consolidated by the Comptroller for the company as a whole) 3 months in advance of the first month under study. It comprehends estimated revenues and expenses by months for the first three months, and by quarters for the remaining nine months of the 12-month period. The revolving budget affords an effective means for reviewing the company's future outlook every 3 months, and thus provides management with advanced opportunity to modify plans on the basis of indicated changes in revenue or expense trends.

Monthly forecasts of operations are submitted by each reporting field unit of the company, approximately 2 months in advance of the month under report, and flow through departmental channels to the home office in New York. The forecasts provide management with a near-term view of earnings prospects for each approaching month; they are also effective as a check against home office estimates as to the trend of forthcoming operations.

Weekly estimates of the current month's operating



**The human intellect is the great truth-organ; realities, as they exist, are the subjects of its study; and knowledge is the result of its acquaintance with the things which it investigates.**

**—Moses Harvey**

results are prepared by the Comptroller's office, at the close of the first week of a given month, and during each succeeding week of that month. These are based on day-to-day and week-to-week indicators of actual operations, reported by telegraph, as furnished by the field. The weekly estimates make it possible to detect any substantial variations from the forecasted results for the month, and thus provide management with an effective tool for early action, where such action is deemed necessary.

To do its job effectively, management must get out into the field as frequently as possible, to see for itself, at first hand, the end results of its plans and operations. Western Union's field and headquarters officials make personal trips as often as their duties will permit. My own plans call for making at least one extended trip each year from coast to coast, together with the major department heads. On these trips we meet with civic and business leaders at principal cities and talk with telegraph users and telegraph employees to learn directly about local problems and communications needs. These trips are an invaluable means of communication between ourselves and those who carry out company policy in the field, and help to assure a proper perspective and sense of direction for all of us.

Still another important aspect of the management function is the effectuation and maintenance of a sound program of employee relations. Management's objectives cannot fully be realized unless effective means exist for communicating them to company personnel, and unless the employee group is operating at a high level of morale and efficiency.

The wages paid to our employees more than favorably compare with those in other companies. Average hourly earnings of Western Union employees were \$1.85 in August 1954, as compared with \$1.79 for employees in all the manufacturing industries that report to the Bureau of Labor Statisticians.

Employees are covered by a comprehensive sickness, accident, retirement and death benefit plan, financed entirely by the company, which was one of the first to be introduced in this country.

A special salary incentive plan is in effect for all employees in the management group which provides for the recognition of merit and performance on a regular review basis.

Western Union people are kept informed of company developments through a monthly magazine that goes direct to their homes, supplemented by special management letters whenever circumstances warrant, and by bulletin board notices that frequently are issued by telegraph. In addition, a separate publication, which discusses management's problems, plans and objectives, as well as the degree of progress that is being made in meeting them, is distributed periodically to management and supervisory personnel.

Modern testing procedures and other employment techniques are used to guarantee the continuous availability of qualified personnel. A college recruitment program helps to insure an inflow of qualified candidates for future management, and for engineering and other technical positions.

The development of personnel for management positions is of major importance to the company's future,

and is provided for by means of a long-range managerial development program. The objectives of the program are to produce, through improved selection methods and integrated training programs, the highest calibre of personnel throughout all levels of management, and a reservoir of qualified personnel adequate to meet the company's future management requirements.

## Helping Government and Business To Do the Job

What I have just described, all too briefly, is how Western Union gets things done. But, as I said at the beginning, our work does not stop there. Our business—communications—is the nerve system of the country's giant economy, and is essential to the well-being and security of the nation. Western Union's biggest single customer is the United States Government and over 75% of telegraph volume comes from business sources. Inevitably, whatever is done at Western Union will have its effect on how business and government get their own jobs done. I am proud to say that spectacular advances in technological development, particularly during the past 5 years, have made possible significant improvements in the rapid written communications art, and have led to new achievements in the speed and efficiency of service. The dot-dash era of Morse telegraphy has been replaced by a radically new, ultra-modern and highly mechanized telegraph system. Today, Western Union is better prepared than ever to serve the country, both in peacetime or in the event of a sudden national emergency.

A network of high-speed message centers now links every state in the Union. This new system, which has replaced the former manual transmission of telegrams with automatic methods, has doubled the peak wartime message capacity and has greatly improved efficiency. It marks a revolutionary advance over former methods.

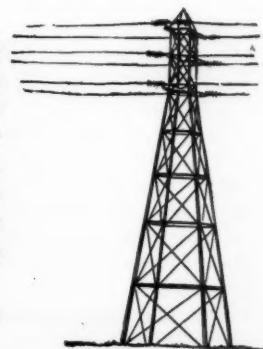
Before Western Union installed its present high-speed transmission system, the telegraph industry operated through more than 100 area centers, or "relay" offices. Each of these centers served a relatively limited number of tributary offices in its immediate vicinity. Telegrams were relayed from one center to another. There they were again relayed manually, either to the destination point, or to other area centers, where they were finally transmitted to their destinations.

Under Western Union's new system, the 48 states have been divided into 15 areas, each of which is

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He who calls in the aid of  
an equal understanding  
doubles his own; and he  
who profits of a superior  
understanding raises his  
powers to a level with the  
height of the superior  
understanding he unites  
with.

—Edmund Burke







General Tire's  
Founder and President  
WILLIAM O'NEIL

# Do-It-Yourself MANAGEMENT

by William O'Neil

THE General Tire & Rubber Company, now heading into its 40th year of operations, boasts a do-it-yourself management development program.

We inaugurated this program when the Company was founded in 1915, and I'm convinced that we're ahead of the times—not behind them—with a flexible, self-educated, self-trained management.

People plus successful products have built General Tire from a \$200,000-a-year organization to a \$200 million-a-year corporation. But it cannot be denied that people alone have put the "plus" into our Company.

In short, we have a team of trained executives manning our plants and offices who have become top-flight business people because we didn't fence them in with red tape, restraint, and undue dictation from the home office.

Employing personal drive, enthusiasm, and initiative with a green light from management, they have developed a sense of leadership and confidence which, when translated into action, has meant more sales and more profits for the Company. We have always exercised certain definite financial controls from Akron, but we've never "held their hand" in the field.

Pointing up the flexibility of our management group is the following illustration: to help open our new polyvinyl chloride resin plant at Ashtabula, Ohio, earlier this year, we brought a rocket scientist in on special assignment from our Aerojet division on the West Coast.

As our people have grown up with the Company, they have gained authority by assuming responsibility. Perhaps that sounds like the reverse procedure, but it's our way of forcing a do-it-yourself program on personnel with potential executive qualities. I've always maintained that you can't train men to take the reins of authority by conducting conferences, meetings, courses, and seminars. Further, it is difficult to take away authority once they've gained it. In the majority of cases, they either give it away or let it get away.

Thus, our flexible, do-it-yourself program of management development has proven itself even according to 1954 standards, since it has provided us with the leaders to carry out our expansion through diversification.

A management concept now catching fire across the country is decentralization. We decided on decentralization nearly 20 years ago when we first ventured beyond the bounds of tire manufacturing into the mechanical goods business.

As we have continued to grow and diversify, we have continued a policy of managerial autonomy, operating on the theory that the best way to make money is to give a man the opportunity to assume responsibility on his own hook.

In each of our operations, we like to make one man responsible for sales, another for production, another for research and product development, with the manager of the division acting as the president of a small company of his own.

Thus, he has tremendous pride of accomplishment. He seeks prestige in the sound growth of his division. He, in turn, makes every effort to obtain the best possible talent for his management team.

To successfully implement our decentralized plan of operation, it is necessary that we continue to attract top caliber personnel who are the potential management and technical leaders of tomorrow.

We attempt to develop personnel from within the Company's ranks, but we don't hesitate to go outside for management ability, especially in connection with such new fields as chemicals. Again, our management thinking is flexible enough to recognize our needs and the best methods of fulfilling these needs.

Summing up, let me say that the flexibility of our management development matches the diversification of our interests. The success of both elements has been the backbone of our strength and growth.

Editor's Note: From the above account, it would seem that Mr. O'Neil's theory has not only proven quite sound but it has paid off handsomely as well.

However, there are a number of interesting details about his company, which the pioneer in the rubber industry modestly neglected to mention. We think that the expansion of his firm, from a comparatively small manufacturing concern to a far-flung industrial empire, certainly accentuates the success of his management policy.

At Kansas City, in 1909, William O'Neil and Winfred E. Fouse founded the Western Rubber and Supply Company which became the largest producer of camel-back, repair materials, and accessories.

In 1915, because of the increasing demand for these products, O'Neil decided to form a new company for manufacturing all types of products used in the automotive and transportation fields. Envisioning a large

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# *The Railroads Are Vital to the Nation's Defense*

by  
**Albert R. Beatty**



Association  
of  
American Railroads'  
Assistant Vice President  
**ALBERT R. BEATTY**

IT isn't enough to *build* an atom or a hydrogen bomb or any other piece of armament or ammunition—it also must be *moved*.

This simple expression of the fact of transportation points up the whole complex problem of logistics. For combat forces can be only as effective in their operation as the production base from which they draw their supplies and the transportation lines over which those supplies are assembled and delivered.

Since supply lines for combat forces reach all the way back over land, sea and air lanes to farms, forests, mines, mills and factories, the primary carrier serving the richly productive economy of America must have a position in our defense planning no less than at par with the armed services.

This primary carrier has been, is, and will continue to be the railroads. According to the latest freight traffic statistics compiled by the Interstate Commerce Commission, the railroads perform more than 52 per cent of all freight service between cities—or more than all other common carriers combined.

Railroads are the carrier whose tracks sweep into every section of the nation, interconnecting every region into an immense productive unit. This is the carrier whose low-cost and dependable mass transportation service serves as a giant assembly line for

production in peacetime and for the free world's arsenal in wartime.

Historical perspective, embracing what the railroads had to do and did in past wars, provides valuable clues to be applied to present planning on the role of transportation in defense. In World War I, a snarl developed in the use of rail transportation. Cars were loaded without regard as to whether they could be unloaded when they reached destination, with the result that at one time in 1918 as many as 200,000 freight cars were backed up at ports awaiting unloading into ships. The government during that war took over and operated the railroads. The cost to taxpayers from chronic deficits in this operation ran to about \$2,000,000 a day.

With the coming of the second World War, the railroads remained under private management and paid into the federal treasury taxes amounting to more than \$3,000,000 a day. During this unprecedented national emergency, the railroads wrote what is undoubtedly one of the most glowing chapters in transportation history as they moved vast quantities of munitions and arms for our armed forces, at the same time carrying the brunt of civilian commerce and picking up most of the tremendous increase in traffic that came with war. During World War II, the railroads handled more than 90 per cent of all military freight shipments, 97 per cent of all organized military travel and 70 per cent of all intercity freight traffic.

The size of the railroads' transportation job is graphically portrayed by comparing the tonnage of munitions handled during 1945 with that of 1918. In just that one year of World War II, the railroads carried more than 18,000,000 tons of military explosives in 450,000 carloads.

During the entire World War I period, on the other hand, such shipments totaled about 2,000,000 tons. As a matter of fact, in just one month of 1945, which represented the peak of the transportation of military explosives, ammunition handled by rail exceeded the entire load of World War I.

The movement of such lethal cargoes points up another outstanding characteristic of railroading. Not



*The ribbons of steel that span the nation serve to bind the forty-eight sovereign states into a symbolic fascis of might and power. Because of these ribbons, East is East and West is West and the twain meet constantly.—Francois Lereaux*

only does munitions hauling require the finest of facilities, but also a sound transportation organization, a management and working staff with thorough experience, and a rigid safety code, rigidly adhered to. These are all foundation stones of rail transportation.

The railroads' success in achieving unparalleled safety in handling this type of traffic is borne out by the fact that for the past 32 years not a single person has lost his life in any accident due to railroad transportation of explosives.

On the broader plane of preparedness, while our nation may never be faced with another such emergency as a major war, there is no room for complacency in defense planning. To keep our Army, Navy, Air Force and Marine Corps in a state of readiness means maintaining an adequate number of men under arms. It means guns and ammunition, ships and submarines, jets and rockets, atomic weapons and thermonuclear devices. It means food production, raw materials output, manufacturing capacity. And it means dependable transportation.

In this connection, it would be well to remember that not only did our railroads handle the great bulk of military traffic in World War II, as mentioned earlier in this article, but they also were called upon to carry 87 per cent of all the increased traffic of wartime. The railroads were able to turn in an astounding performance because of an inherent characteristic of railroading which no other means of transportation possesses.

This characteristic is the ability of the railroads to handle greatly increased traffic without a correspondingly great increase in demands for manpower, fuel and materials. By reason of the very nature of railroad operation—hauling things in trains of cars—it is possible to increase the load per car and the number of cars in a train without any large increase in the number of men required or the amount of fuel burned or the quantities of materials used.

The flexibility in making up trains makes it possible for the railroads to expand their capacity more readily, and with greater economy in terms of manpower, fuel and materials than can be done by any form of transportation which depends upon single-unit vehicles. Important in time of peace, this unique characteristic of the railroads becomes vital in time of emergency or war.

Physically, today's railroads are in better shape to meet a national emergency than they were at the time of Pearl Harbor. This is a direct result of the vast improvement program inaugurated by the railroads at the end of World War II and continued at a spending rate of more than one billion dollars a year.

This program, involving a total investment of about \$10,000,000,000 of railroad money in the nine post-

war years, has given today's railroads an operating efficiency which is greater than ever before.

The most revolutionary change, and perhaps the greatest single step taken by the railroads in the improvement program, is in the dieselization of motive power. Expansion in the use of diesel power has been so wide that today more than 85 per cent of all locomotive service is performed by diesels. And railroadmen are currently testing gas turbine locomotives and other new types.

In freight equipment, the railroads have made an equally impressive record of improvement. Just since the end of World War II more than half a million new freight cars have been placed in service. Practically all of these have greater capacity, sturdier construction, smoother-riding springs and more effective impact-absorbing draft gears than those they replaced.

Yards and terminals also have been modernized through the use of new mechanical and electronic equipment so that today's freight classification yard is a vastly improved facility over the yard of only a few years ago. By push-button control, freight cars are routed into proper tracks at key railroad centers, made up into trains and speedily sent on their way to final destinations.

These are just a few of the improvements made by the railroads in recent years, but they show how wide an area has been covered.

As to the future, it is impossible to forecast whether our nation will enjoy peace or be plunged into another war. If it should be war, the demands and the problems will be incalculable. It is possible that in the event of war, we will be subjected to enemy action from our own skies. And that possibility, too, the railroads are organizing to meet.

In one civil defense dry-run in a major railroad terminal center a few months ago, loaded traffic was being routed around the center of assumed devastation within an hour after the danger was declared, and empty freight train cars were being intercepted and diverted outside the terminal. The simulated attack spread and routes that were open at the beginning of the test were cut without warning. But the diversion and re-routing system continued to work, and loads and empties were kept rolling around the protective ring established about the troubled areas. When the "all clear" was given, traffic began returning to its normal channels within an hour.

While this experience was only an exercise, it was also a strong demonstration of the unity which brings the railroads together to meet any emergencies through the utilization of alternate routes and facilities.

It is that kind of effectiveness, combining the most efficient use of manpower, fuels and materials to produce efficient, low-cost transportation, that makes the railroads so vital a part of the nation's defense.

The sum of wisdom is that the time is never lost that is devoted to work.—*Ralph Waldo Emerson*



All that is human must retrograde if it does not advance.  
*Edward Gibbon in Decline and Fall of the Roman Empire*



## "Hire Them Young, Select Them Carefully, and Teach Them Well"

*by Harold F. North*

Swift's  
HAROLD F. NORTH

IN the early days of Swift & Company, G. F. "Stave" Swift, the founder, and Mrs. Swift knew each of the employees personally, and helped them solve their problems.

It also was the custom of Mr. Swift to hold conferences with employees on the front porch of the family home near the Stock Yards in Chicago. Foremen, department heads, and young men who wanted to learn more about the business attended these informal meetings. Mr. Swift soon learned the natures and abilities of each of his men. He placed the men where these abilities could best be used and developed to the best interests of the employee and the firm. Although the employee group long ago outgrew its front porch stature, proper placement and training still prevails.

Employee relations at Swift are divided into three general fields: (1) procurement and placement, (2) training, and (3) employee benefit programs.

A national organization of more than 78,000 employees is in need of constant replacements. About 600 Swift people retire on pension each year and the places of these employees, who have had many years of experience, are filled by others who are coming up through the ranks. This and normal turnover make it necessary to seek out qualified applicants each year and start them on their way up in the organization.

In line with Mr. Swift's formula of "hire them young, select them carefully, and teach them well", Swift & Company prefers to develop leadership within the organization. Qualifications for employment include special interests which may be developed, but the greater emphasis is placed on character, personality and ability to learn. "I can raise better men than I can hire" is one of the guiding axioms attributed to Mr. Swift. Today, Swift still follows the policy of promotion from within and the development of Swift people for advanced positions.

What happens from the time a Swift employee first applies for a job until he arrives at retirement age is a gradual process of developing his best talents, directing them into fields that will be mutually beneficial to the company and himself. This may sound like a reverse approach to what is popularly known as "employee relations." Although there is no sideshow of paternalism, no juke-box musicals to stimulate production, approximately 20 per cent of Swift's 78,000 employees have been with the company twenty years or more and service records of 40 years, or more, are

commonplace.

Over a period of years, Swift has learned that the best sources for recruiting new employees, who have the desired qualifications, are high schools and colleges. These are highly competitive sources, as practically all progressive firms have employment interviewers contacting graduates, in addition to the college placement officers and vocations counsellors. As the "cream" of prospective talent is skimmed off early in the year, Swift's personnel division tries to establish a permanent relationship with good schools. The technique, of course, is to keep placement officers "sold" on Swift as a good place to work, in the hope that students will look forward to a career at Swift.

The next best source is among the friends and acquaintances of present employees. The company has learned the old adage "birds of a feather" is sound and friends of Swift people are quite likely to have the same likes and dislikes as successful employees at Swift. They are likely to have an even temperament that makes them compatible with the group, more reliable, and likely to find satisfaction in their work.

Voluntary applications usually are a plentiful source of all types of employees, while the professional and trade organizations, advertising media, and employment agencies are best sources when seeking someone with special talents or qualifications.

Regardless of the source thru which an applicant may be contacted, the employment procedure is relatively the same, regardless of the plant location or division of the business. It should be noted here that each plant, sales unit, oil mill, etc., does its own interviewing and hiring, but following prescribed methods.

In seeking a career with Swift, the first step is to write, or apply personally, to any Swift unit. Each applicant is given a screening interview before he completes the application blank, in order to examine briefly his scholastic record, experience, personality, general appearance, and to help the company determine whether his qualifications should be considered further. As Swift representatives visit colleges regularly about graduation time, this interview with college students often takes place on the campus.

What the company terms the preliminary interview is the next step, which occurs after the applicant has completed his application and among college men, screened on the campus, the graduates are invited to visit a Swift unit for the preliminary interview.

At this time, the discussion between the prospective employee and the company representative goes thoroughly into the applicant's qualifications to determine, "Is he the type of man we thought he was?"

If the answer is "yes" the applicant may then be asked to undergo pre-employment testing. Tests are



available for employing city, sales unit, and plant salesmen; ice cream salesmen, stenographers, typists, file clerks, comptometer operators, messengers, clerks, standards checkers, plant food representatives, egg candlers, and field men for dairy and poultry plants.

These tests are used as a guide in evaluating the interests, skills, and personality characteristics of applicants. One twenty-minute written test measures mental alertness, another tests vocabulary (important in sales), and still another, measures the applicant's ability in mathematics.

Each test has been "validated", or proved to apply to a particular job or group whose performance already is known. Tests for salesmen are validated against the average for all salesmen, hatcherymen against all hatcherymen, etc. Scores show how an applicant will rate with a fixed group rather than with a cross-section of all employees. Batteries of tests are set up for specific aptitudes and none applies to company-wide or random interests.

Although additional tests, covering other types of work, are being developed all tests serve only as a supplement to the usual interviewing techniques, never as the deciding factor in selection. A physical examination is, of course, also required.

If the jobseeker is considered qualified he is then referred, for a further interview, to the supervisor or head of the department for which he may finally be hired. Covering much the same subject matter as the preceding ones, this interview gives the supervisors or department heads an opportunity to learn, "Will he fit into this department?" They have authority to accept or reject the applicant.

Employees hired for Swift's General Office are requested to discuss their jobs with one of the employment staff one month after they begin work and a similar interview is scheduled for six months after the job begins. At the end of the first year another interview takes place, which is followed by others, at yearly intervals, for the first three years. Each of these interviews is based on an appraisal report by the department head and through them, the company can ascertain whether or not the employee is working at the job for which he is best qualified.

"One of our chief requirements," a Swift executive explains, "is interest in the job. We look for any usable skill a man can bring to a job to avoid placing him in a position beneath his ability for we want him to derive from his job not only financial income but, also, the satisfaction that comes from work he likes. This is so necessary to success."

When hired, the employee has a right to expect proper introduction to both the company and the job and Swift readily assumes this responsibility. Not only is the new employee given personal supervision at the start of his job, but he is also given a good foundation

in just how the company as a whole operates, what he can expect in benefits, promotions, pay and disciplinary action. At the time he is hired, each new employee is given an attractive handbook "Your Job With Swift & Company" which contains a wealth of information and becomes a ready reference on company policies and history. This is supplemented by informal talks.

Groups of employees, at some units, have chosen to be represented by unions while other units, such as dairy and poultry plants, plant food factories, oil mills, etc., negotiate their agreements plant by plant. Meat packing plants generally have Master Agreements with one of these three labor unions: United Packinghouse Workers of America, affiliated with the CIO; Amalgamated Meat Cutters & Butcher Workmen of North America, affiliated with the AFL; and the National Brotherhood of Packinghouse Workers. Each Master Agreement covers the Swift plants that are represented by a particular union.

In its widely scattered operating units, the company bargains with approximately 25 different independent, national and international unions, representing company employees in nearly 300 different bargaining units. There are approximately 250 different agreements reached with these unions.

In one of the annual reports to its shareholders, Swift & Company pointed out that the company's physical assets, important as they are to the success of the business, would be worthless without people—"people with ability, knowledge, skill, imagination and leadership. The success of any business hinges on how well it is able to organize, equip and train its people—all the way from the bottom to the top."

Swift has many training programs, including employee development, courses for training salesmen, programs for supervisors, and an executive development program, with others devised as the need arises. The courses are open to all employees, whose qualifications merit admittance, regardless of the amount of formal education they may have had. A man who lacks a college education does not suffer any particular disadvantage, because the company recognizes that he might have had some good reason for choosing to go to work rather than to go to college, and the company has the facilities to give him training in the fields of his ability.

Schools for sales training are permanently housed in their own quarters, at strategic locations throughout the country, while other schools are conducted, during working hours, in company conference rooms. Still others are operated through correspondence, as a convenience to students.

The program for young men under 21, in the General Office, is an excellent example of employee development. In operation for over thirty years and offering two years of study, the employee enrolls in this program when he is hired. Called "Swift & Company's Business," it gives every messenger boy, file clerk and junior clerk thorough training in Swift's business methods.

Reports are sent to the employment department as well as to the head of the department where the student is employed. These reports are in addition to those regularly turned over to the employment office





by the department manager and through this double check, management learns whether the student is capable of further training, and the type of work he can do best. As a result, there is little chance for a young General Office employee to get lost in a blind alley, or "tough it out" in a job for which he is not well suited. If his job report is a poor one, the chances are that his training report will show where he would be better suited, and he is transferred. The double set of reports also serve as a key to advancement, and when vacancies occur, the well-qualified employee is ready for the next step up in the organization.

All stenographic help for the General Office goes through a training course for an over-all view of Swift's operations so that girls have an equal advantage in scientific job classification and placement.

Meat packing plants have a two-year course—Swift & Company Business—similar to the first two years of the office program, extending through forty meetings a year. A good rating at the end of two years is a helpful step toward future advancement.

Newly appointed supervisors at packing plants are enrolled in the New Supervisors Training Program covering: Part I—individual study and training, consisting of topics discussed with selected leaders during the first 2 weeks after promotion; Part II—one or two weeks on-the-job training, which consists of observing and studying the methods used by experienced supervisors in carrying out their responsibilities; Part III—review and individual study for one week on related subjects not covered in Part I; Part IV—basic supervisor training program, to be completed within one year, embracing Job Instruction, Job Methods, Job Relations, Employee Relations, How We Live, Swift & Company's Management, and Safety Through Supervision.

Twenty-one free correspondence courses, composed of three to twelve lessons each and covering a wide field, are available to all employees. Special phases of the company's business are covered in these courses, such as processing of cured and smoked meats, fresh meats, livestock production and marketing, manufacture of technical products, and operation of dairy and poultry plants. Courses are also offered in industrial relations, advertising, and company history.

In taking the correspondence courses, an employee may receive help from the management of his local plant. These management people, who are among the most important key men in the organization, add a practical viewpoint to routine study and, of greater importance, they keep the student's interest alive. When the student knows that a management representative is personally interested in his studies, he is less apt to feel that he is in a "correspondence rut."

The Sales Training department has a specialized program. Its function is to develop and administer (1) the selection of men who intend to follow sales as a career; (2) a basic course to train salesmen in product and policies; (3) a program of continuous training that is conducted largely in the form of sales meetings in the field; (4) program on sales supervision; (5) an up-to-date method of evaluation or merit rating, geared to the development of sales personnel, to help correct weaknesses and develop strong points.

Operating under the leadership of trained sales

people, these programs have been established in 13 key cities in the United States and Canada and are held in separate training centers, equipped with modern teaching aids.

New meat salesmen are given several weeks of experience, either in a packing plant or a sales unit, before being sent to the organized training center and each of them is required to take the complete course before he is given a permanent territory assignment. Refresher courses are also conducted to keep men up to date on the latest selling techniques. To date 6,700 such salesmen have been given one or another of these Sales Training Courses.

One specialty course is morale training for management, with its aim the teaching of human relations. The attention-getter and permanent reminder of this course is a wooden Indian, capable of standing outside in the wind and weather, suffering all the indignities of man and beast, without flinching—because he has no heart and no feelings, because he's made of wood. But an employee,—well, you get the distinction.

The final result of this added education and training is a group of people who can produce greater volume—efficiently and effectively.

"A progressive company is concerned with the welfare of its people." This truism most clearly defines the attitude of Swift & Company toward all of the people who make up the company, both present and retired employees, as well as shareholders. Concern is expressed in terms of making it possible for an employee to become a useful citizen in his community as well as in the company. Satisfaction and achievement in his work help to make him a happy and cooperative citizen with a high regard for his company.

There is no secret formula for welding a satisfactory kinship between the company and the employees; it can be stated briefly: "Hire them young, select them carefully, teach them well, compensate them fairly, provide opportunities for advancement, assist them in sickness and adversity, and provide a pension for their old age." Such a procedure reduces mental stress, and places emphasis on individual accomplishment.

What more can a Swift employee expect? There is much more in the way of benefits, some of which, recently made popular by general demands for social security, have been Swift policy for over a quarter century. Changes and additions to employee benefits are made frequently to keep pace with changing conditions.

In 1900, Swift & Company first employed a doctor full time to minister to the health needs of employees at work and today, there are thirty-two doctors and sixty-seven nurses in medical departments at meat packing plants, besides various additional arrange-

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# Understanding Military Leadership

by Edwin C. Nevis, Ph.D.



Worthington Associates'  
DR. EDWIN C. NEVIS

THE problem of evaluating subordinates for assignment to important leadership positions daily faces all officers in one context or another. At the higher command levels, in particular, the need for making accurate choices of men to insure their most effective placement is a crucial one. The importance of the matter is quite clearly reflected in the extensive research and practical experience which has gone into the making of currently used officer efficiency ratings, and the place held by these fitness reports in decision-making as to promotion and assignment of officers.

To provide top echelons with insights about leadership, and to give them the technical aids by which to make their evaluations more reliable and useful, personnel specialists have been conducting a great deal of research in the area of military leadership, both within service organizations and through the medium of contract research. At the same time as work has proceeded in the development of more effective tools by which officers might evaluate their subordinates' performance on the job, much time and effort has been devoted to the study of leadership characteristics and the accurate measurement of these traits. As the experience of the last fifteen years has accumulated and filtered into operational channels, psychological testing programs have gained a broad usage. Thus, measures of personality and motivational factors have now been widely utilized by the Armed Services, particularly in the screening of personnel for such duties as combat flying and submarine service. The results obtained have proven valuable not only in the classification of personnel, but also in the establishment of training curricula and leadership development programs.

## Developmental Histories as Measured by Biographical Inventories

Out of these studies has emerged a general finding that there exists a reasonably close relationship between an individual's developmental history and his attained adult "life-style" on the one hand, and his performance in leadership situations, on the other. Thus, while necessary skills are always needed, an individual's success, particularly when under stress, is more nearly a function of his attitudinal set, his emotional stability, and his basic needs and drives. These factors, in turn, are reflected in his characteristic modes of behavior; and they can be understood

by making an analysis of the developmental history that has resulted in the adult person and his behavior patterns.\*

In this search for the personal characteristics which are related to success in military leadership situations, one type of instrument seems to hold more promise than any others which have been utilized. This is the Biographical Inventory or Biographical Information Blank (BIB) with which most branches of the service have at one time or another experimented. Recent studies by Sells and others at the USAF School of Aviation Medicine, and some conducted by the Personnel Research Board of The Adjutant General's Office point in this direction.

Typically, this instrument takes the form of a questionnaire which asks the respondent to give an outlined version of his developmental history, his family background, his school record, his interests and hobbies, his goals and ambitions, and a variety of other personal factors which make up an individual's life history. In some instances the format used resembles that of the ordinary employment application. In others, the format is that of a multiple-choice test, in which a representative item might ask that one of five choices be indicated to the question: "When I was a young boy my father played with me ———." (The amount of time spent together is called for in the answer). Leadership potential, and other aspects of military job performance, are measured by studying the relationship of the actual responses to these questionnaires to the degree of leadership success experienced by a representative group of officers. The findings are then applied in the evaluation of an untried performer's potential for success in a like role.

## An Illustrative Air Force Study

In a recent study conducted for the Air Force at the Personnel Research Institute of Western Reserve University, a relatively new approach to biographical inventories was employed as one aspect of a large-scale investigation of the leadership characteristics of staff and command officers.† The technique used was a slightly modified adaptation of the Worthington Personal History Technique, in which a respondent's answers to a specially designed questionnaire are treated not only as factual, census-like information—as in the case of most information blanks—but as a

\*In the October issue of ARMED FORCES MANAGEMENT (Vol. 1, No. 1) many of the behavior patterns which emerge and which can be utilized in this type of analysis are discussed by Dr. Robert F. Pearse, in his paper on "How to Recognize Executive Ability." This paper and the present one may actually be read as companion pieces.

source of data from which basic attitudes, drives and emotions may be estimated. It is based upon the analysis of a form quite similar in appearance to ordinary employment information forms, and which asks for specific information in all of the areas usually included in these and other biographical inventories. What makes the Personal History different is that, while most of the items call for specific facts, they are designed to give the respondent a great deal of freedom to answer as he sees fit, i.e., in his own, personal style.

Thus, not only is an individual's developmental history given, but his characteristic behavior pattern may also be inferred from an analysis of the manner in which he gives structure to the open-ended questions he is asked to answer. Experience with this method has shown that different types of people tend to respond rather consistently to certain patterns of these items, and that a systematic analysis of the specific information and of the particular style in which it is presented leads to a personality picture which can be quite useful in predicting leadership potential.

### The Highly Conscientious Officer: The Good Staff Man

In the Air Force study, for example, officers who might be termed highly conscientious in carrying out their responsibilities, and who were often so rated by their superiors, showed this in many ways in completing their Personal Histories. They gave complete and detailed information; followed instructions to the letter; indicated that they had applied themselves hard and persistently to school, job, and other life tasks; demonstrated a willingness to shoulder heavy responsibility. These officers frequently gave answers such as the following to questions concerning their attitudes towards their work, and in listing their future aims: "I am able to carry a job to completion by steady application of effort and my skills"; "I can work persistently at important tasks"; "To apply myself to the best of my ability so as to earn future promotions"; "I intend to work diligently at living up to my trust as an officer in the U. S. Air Force. Such officers were generally effective in staff functions.

### Leadership in Relation to Authority: The Command Function

It is surprising to note how often such themes run consistently through an officer's record. Thus, an officer who tends to be somewhat rebellious towards authority and who resists fitting into the system, being a difficult man to supervise, tells us so in many different ways

†This research was supported in part by the United States Air Force under Contract No. AF 18 (600)-420, monitored by Technical Director, Detachment No. 7, (Officer Education Research Laboratory), Air Force Personnel and Training Research Center, Maxwell Air Force Base, Alabama. Personal views or opinions expressed or implied in this presentation are not to be construed as necessarily carrying the official sanction of the Air Force or of the Air Research and Development Command. (A more detailed discussion of the research and findings is contained in: Nevis, Edwin C., *The Effectiveness of the Worthington Personal History in Assessing Air Force Officers for Command and Staff Leadership*; Western Reserve University; February 1954.)

in completing his Personal History. He may, among other things: scrawl his answers out in a loosely-organized way, going through the printing on the form; completely ignore certain items or change the instructions in giving his answers; indicate that he relies on "no one" for help at any time; say that it is "complete freedom and scope of action" which he likes about his current assignment. Such a man often refers to his superiors on the form in a disrespectful tone, frequently handling their names in a careless or off-hand manner—and often those of his father and possibly his teachers. The interesting thing is that this pattern of attitudes and behavior begins to make itself known in the earliest life relationships of the individual and carries on into adult life, coloring all subsequent dealings with authority figures. It is this relationship that makes it possible to predict leadership success from a knowledge of developmental history. If a man has a past record of difficulty in either accepting authority from above, or in adapting himself to a role of authority, it is quite reasonable to assume that he will experience difficulties in a command setting.

A different though equally cohesive pattern is also found for individuals who are rather dependent upon authority, and who are ill at ease without it. Some officers, for example, do a fine job as long as they know that their superior is behind them, ready to back them up if they get into tough spots. When put on their own under stress, however, they tend to become somewhat anxious and confused. Their characteristic attitude is again a function of the nature of their early formative years compounded by the relationships and experiences which reenforced their fear of asserting themselves in a fully independent, forceful way as they grew into adulthood. Such men are generally more comfortable in staff roles.

Well-integrated patterns of behavior are also seen on the Personal History for those men—in both military and business settings—who take to supervision without resenting it, and who can act with an easy air of authority when they are in command roles though they may be less conscientious than staff officers. Such persons seem to have enjoyed a fine relationship with persons of authority, including that held with their fathers, and they are by and large the best commanding officers.

### Implications of the Findings

The patterns of responses that emerge from analyses of Personal Histories serve to identify the particular attitudes regarding authority which are held by a given officer. In the leadership study mentioned above, such



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???



patterns were used to predict the performance of a group of Air Force Officers. The results indicated that against specified criteria of leadership effectiveness, and for particular duty assignments, judgments based upon these differing patterns could improve the selection of above average officers in a given type of assignment from two to thirty-five percent. Thus, the method may be of practical use in screening large numbers of officers for broad categorization or assignment. At least, this would be possible if there were a number of eligible men to choose from, and some leeway could be exercised in choosing from among this group.

Perhaps even more important than the useful predictions that such results make possible are the findings that emerged which add to the body of knowledge regarding leadership in the military setting. It was found, for example, that in evaluating subordinates' leadership performance, superiors of the officers studied did not always rate highly those men who, according to their test patterns, manifested a rather high degree of vigorous, assertive behavior. Nor did they, as a rule, think too highly of men with many ideas to offer to the solution of a problem. The same applied, in general, to quick-tempered, blame-avoidant "alibi-artists" who only under duress would back up their aggressive ideas and breezy self-confidence with steady, concentrated effort. Such officers were not thought of too highly despite the fact that by certain standards they would be considered good leaders in emergency, loosely defined situations.

What superiors did seem to value highly as good leadership qualities were persistence and resolution in carrying out assignments—even if this was done in a rather inflexible manner. They seemed also to prefer men who did not think about too many different ideas, but who concentrated intensely on relatively few matters at a given time. Moreover, they considered it important that a leader, in order to be effective, be forthright, objective in judgment, and under good self-discipline.

An implication of importance which can be drawn from these findings is that leadership success in the military may not require any particular hardiness, derring-do, or great individual initiative, as much as it seems to be a function of ability to fit into the system, and to carry out a fairly well-ordained role in a conscientious and intelligent manner. In effect, this means that the good officer will be, in the long run, a man who not only is capable of outstanding deeds, but one who also builds a well-organized team by carrying out his duties with somewhat stubborn, rigid persistence. Thus, the good military leader is, by and large, an organization man, not a "star performer".

On the other hand, it well might be that many of the more aggressive men who were rated poorly by their superiors would, under certain conditions, do better than some of the higher rated, more steady performers. It should be noted that at the time of the research most of the officers studied were in staff roles; none were actually on combat duty. Thus, these findings suggest, as have the results obtained by others—in particular, by Shartle, Hemphill and others of the Ohio State Leadership Research Board—that situa-

tional factors are highly important and that officers should be placed in the types of assignments which provide a setting that can best make use of their particular talents, attitudes and behavior style. The distinction between command and staff functions thereby becomes a highly crucial one, and it appears best to proceed on the basis of their personalities in bringing officers along in only one or the other lines, and to make few, if any, transfers from one type of assignment to the other. In general, the command function calls for a more assertive, independent type of person than does the staff function, which seems to require more thoughtful, less active, and somewhat more dependent persons. The proper placement of officers into these categories should increase the maximum utilization of manpower by assigning men to those duties which are within their power to deal with adequately.

While findings such as the above tentative ones have been gathered for some time now, work continues in the attempt to gain greater insight into leadership and the life experiences and personal characteristics which are related to success in these complex functions. The convergence of findings should ultimately result in a useful, coherent body of knowledge regarding the practice of military leadership. It now seems apparent that a careful analysis of a man's life style as revealed in biographical forms such as the Personal History will play a major role in studies designed to further this progress.

## The World's Best Pilots Fly The World's Best Planes!



Confederate cavalry genius Nathan Bedford Forrest's theory of martial success was, getting there "fustest with the mostest." The Air Force is well prepared to prove that attack is the best defense.

With America's aircraft companies making tremendous advances in the development of jet powered planes, the Air Force has kept pace with them to provide airmen with the finest training in the world.

Named the Thunderstreak, the above turbo-jet creation of Republic Aviation Corporation certainly lives up to its name. Powered by a J65-3 engine, it can roar along at a speed in excess of 700 miles an hour, with a cruising range of 850 miles.





Atwood Vacuum  
Machine Company's  
President  
**SETH G. ATWOOD**

# PUTTING MUCH MORE PUNCH in PRESSES

by Seth G. Atwood

WHEN asked by the publisher to tell the readers of **ARMED FORCES MANAGEMENT** something about our entirely new concept of job shop management, it was hard for me to see how a seventeen-acre plant, manufacturing hundreds of different products, could possibly interest them. Then, after reading the first two issues, I saw that some articles were addressed to the management-conscious members of the Armed Forces who want to cut costs. There is bound to be a way to accomplish this laudable desire—this is one approach.

The Harvard Business School would call this a case study, which it is, designed to prepare our company for future steps that might be taken to mechanize or automate our operations.

Employing 1000 persons, we have what is known in shop terminology, a job shop and we are confronted with the same old difficulties of services and mobility that are inherent to pressing and stamping operations.

To achieve our goal of putting more punch in punch presses, through greater production, one must keep in mind that our primary overall objectives are (1) to retain flexibility and (2) lower costs. The problems faced are in essence more or less common to all job shops and these steps taken to lower costs, and still retain flexibility, probably cannot be used by others without some modification.

Primarily pressed metal assemblies, our products are, generally speaking, stamped and machined parts that vary from small washers up to  $\frac{1}{2}$ -inch thick metal 2 feet square which has been drawn. As we are currently shipping under 500 different assembly numbers, with an average of four parts to an assembly, a total of 2000 products are actively processed through the plant. Something over a thousand different machine tools, including presses, mills, drills, welding, grinding, heat treating, plating, painting and, of course, the necessary tooling and engineering are needed for this production.

## What Constitutes Savings?

That savings are important is axiomatic. There is very little opportunity in this business to reduce costs through lowered costs in materials, due to the fact that we are buying primarily basic mill steel in mill quantities. It must not be overlooked that great savings can, and must, be realized through more efficient tooling. In fact, much in the way of savings is accomplished in job shops in the development of progressive dies, and other tooling refinements, to increase production while reducing direct labor, and still produce the parts

through utilization of standard machines and equipment.

It seemed clear, in analyzing our financial data, that the biggest saving area would be in the reduction of direct labor. Assuming that further tooling refinements should receive continued study to reduce direct labor, the question was asked, "What, essentially, does labor do?" As far as we are concerned the answer is simple. It moves material in and out of machines, between machines, from raw stock into production, and from finished parts into assembly and then into shipping. This assumption certainly seemed justified when it was calculated that our 1000 employees moved over 4 million pounds of material a day. As the machines and tools cut and form the parts, automation to us, essentially, means mechanized material handling to reduce labor.

## Fundamental Problems of a Job Shop

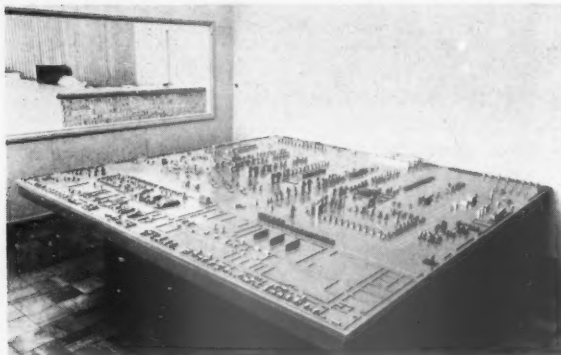
Prior to constructing our new building, a year and a half ago, our previous plant had the traditional departmental layout, with the machines grouped by type in departments. Due to the number of machines involved, there was a substantial travel distance between departments and with the variation in operations sequence of the production processes, material movement was kept at a maximum. A job shop departmental layout provides the following, generally accepted, advantages: (1) Supposedly the only logical arrangement in view of the variation in piece part and operation sequence. (2) A simple control of labor and equipment. (3) A simple labor and overhead cost control center. (4) Supervisory specialists.

These are some of the major disadvantages: (1) The maximum movement of work in process is required. (2) Scheduling is difficult and there is a poor work flow. (3) Supervisory friction. (4) Poor space utilization and a lack of flexibility. (5) Expansion difficulties. (6) Productive labor quality is perhaps higher than necessary. (7) Automation ideas as they relate to mechanically transferring material between operations are not practical.

## King-Sized Chess Game

Designing a flexible plant and the layout of equipment in the plant, consumed over 10,000 planning hours. In making use of accurate scale models of equipment, a long but intensely interesting chess game was played, for really big stakes, with presses that weigh from five to 800 tons—the chess men. In some cases, such a determination of certain material handling ideas, full scale tests were conducted. It became immediately clear that to achieve and retain flexibility and to set up production lines as proposed, a new

## Chess Without Checkmate —And 800-TON PAWNS!



Ten thousand planning hours were consumed in the planning and arrangement of the Atwood plant. Comparable to a marathon game of chess, scale models were shifted, reshuffled and then, shifted again, with this foresight paying off with the optimum of efficiency for material flow.

building would be required.

Our new building has a minimum of fixed obstructions and with the exception of two electrical and air distribution centers and the more or less fixed nature of the plating equipment, all other equipment may be relocated if necessary, with a minimum of difficulty. Lighting levels can be immediately changed by plug-in electrical outlets; machinery can be moved because of the arrangement of the air and electrical lines; and the areas containing the larger machines are serviced with overhead cranes. Machinery located in areas not serviced by overhead cranes can be moved by large fork trucks.

With the north, west and south walls of the plant fixed, the plant is designed for expansion to the east, where a substantial expansion acreage is available.

A word of explanation on the layout would be worthwhile before a tour through the plant is made, in view of the fact that the machines seem to be mixed more or less without reason. The job shop production lines, Fig. 1, were determined and laid out on the following basis.

Determining the number of lines:

1. Make a card for each active manufactured part, and record the manufacturing operation sequence on this card.
2. Sort these parts cards by grouping like operation sequences to determine the number of production lines. Punched cards are used in doing this job and are visually examined for the number of parts falling within a like operation sequence group, to arrive at a judgement of how many lines should be established. Each of the lines will process 2 to 500 parts. Line F in effect is a catch-all for nonconforming parts.

Determining the number of machines in each line:

1. List the monthly experienced or anticipated volume of production for each part on the operation sequence card.
2. Determine the average monthly production rate of a machine for each type of operation.
3. Divide the total monthly volume of parts for each operation in each production line by the monthly machine production rate for that operation. The quotient obtained is the number of machines that is required for each operation in each production line.

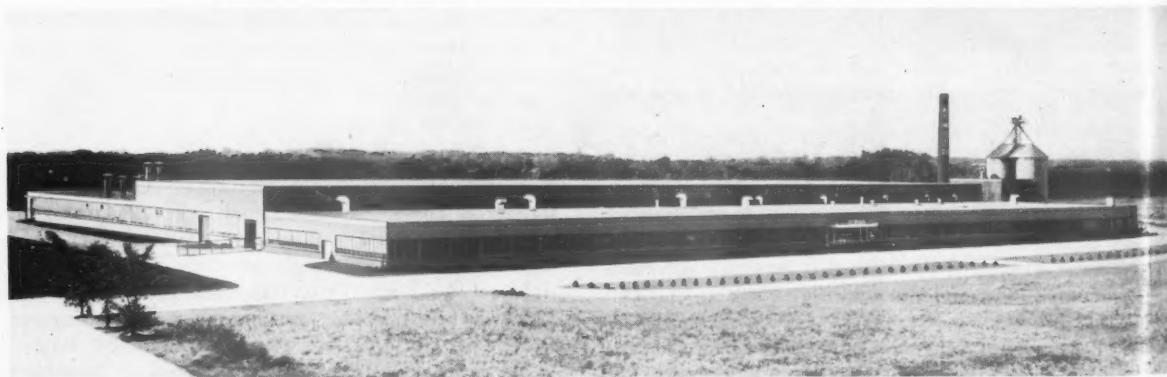
The laying out of these flexible production lines may be the first step in a mechanization program for a job shop.

### Further Automation Ideas?

Consideration of further automation ideas, naturally follows such a layout, and, due to a job shop's requirements for flexibility in production, further improvements will not, in all probability, be along traditional lines. That is, constructing special-purpose machines for producing a more or less standardized product in large volume. It is in this area, of course, that the greatest strides have been made in the past, in the automotive industry, in shell production plants and other high-volume standard product facilities.

One system that the job shop can follow is, to link together relatively standard processes, of a flexible nature, in order to achieve greater economies in processing and handling. The first and vital part of this

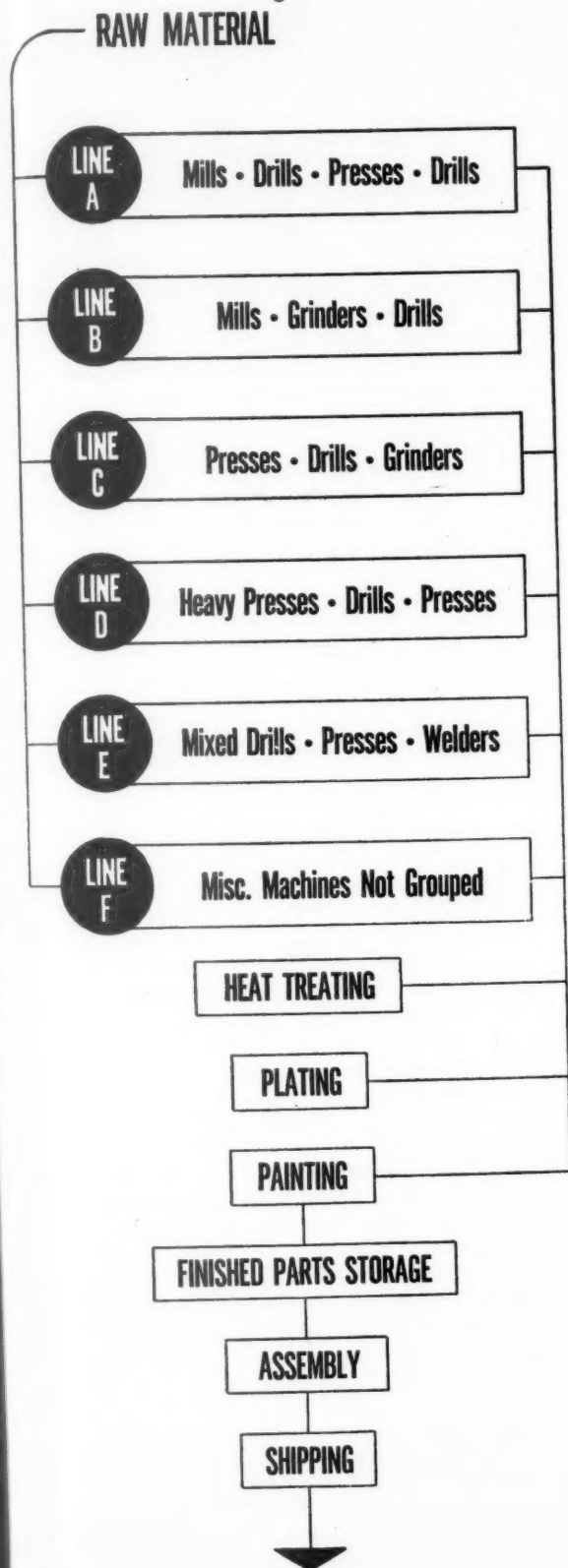
## Subject To Expansion — Only Three Walls Are Permanent



Architecturally one of industry's most modern buildings, designed for expansion, the Atwood Vacuum Machine Company's Rockford plant utilizes much automation in processing 2000 products.

approach is, of course, to continuously improve dies and tooling for parts production; secondly, to evolve

Fig. 1



ways and means of starting, stopping, ejecting and inspecting work done by standard machines using these dies and tools; third, linking standard machines together by providing means for loading, unloading and conveying parts between the machines; and fourth, synchronizing these more or less standard elements which can be flexibly used to obtain an even flow of parts production.

Some students of automation feel that, in the long run, this approach to automation will be more satisfactory because there is a risk of obsolescence regardless of volume and attempts at standardization. This, obviously, is uneconomic and inherent in the special-purpose machine approach. An excellent example of this thought (i.e. linking of common standard elements) is represented by the government's work in the field of electrical circuits and electronic products design experiments commonly referred to as Project Tinkertoy.

As a result of our production line layout, we have just begun to attempt some practical applications containing further improvements in material handling and processing. In the case of one government item, without redesigning the product and without the procurement of special machinery the labor involved was reduced from 42 to 18 people with an equivalent volume of production being turned out. This was accomplished through the improvement of tooling and the addition of a number of mechanical handling devices such as conveyors, chutes, overhead cranes, air ejection devices, and feed mechanisms. Under the old plant layout, with the departmental basis, there were practically no conveyors or chutes between operations. Within the 18 months that we have been in operation in the new plant, we have already added over 100 conveyors and chutes. What we have done to date is certainly not new to a production line plant, but it is a change in the job shop business, which must continuously keep in mind the requirements for flexibility and variations in parts processing.

#### Office Animation Changed to Automation

Another complete study involved the myriad problems that arise in the office, the paper work functions as they relate to mechanization in the factory, and what could be done in the office to reduce costs. Excluding engineering activities, the greatest costs in the office are related to doing necessary paper work. To keep this paper work at a minimum one of the changes made was to establish a functional division, called "Planning and Control." The responsibility of this unit, generally speaking, is to perform paper work for the organization. Secretaries have been eliminated and telephone-type dictation units are used. The planning division has the responsibility for taking the customer's order form and breaking it down into requirements, from a time and volume point of view, as far as production, purchasing, personnel, designing, tooling, and sample building are concerned.

This division also uses this common information, through punched cards or otherwise, to keep control of inventories of purchase parts, raw material, work in process, and finished goods; to collect costs, process

(Continued on page 32)



# We Need Leaders



Dr. Russell L. Moberly

by  
*R.L. Moberly, Ph.D.*

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Administration

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UNIVERSITY

We, as a Society, have a need for leaders—business, industrial, military, spiritual, and political. But the kind of leaders we need are not those who have attained leadership through birth, influence, education or any other means save through free choice by an alert citizenry or by an impartial management dedicated to select right and good successors.

But how do we define right and good? Here are a few elements that are part of a real leader's make-up:

- A. Religious in a wholesome spirit of humility and belief in a higher Being, resulting in a calm serenity that breeds confidence in the ability to handle any situation which might arise.
- B. Incorruptible and courageous—with a clear-cut understanding of honesty and truthfulness and a willingness to live his beliefs and philosophy no matter what the temptations.
- C. Infinite understanding of human nature. He is not shocked at human weaknesses but does not tolerate them in leaders. He understands the tremendous differences in capacities and abilities of people and does not normally expect more from them than their talents can easily produce. However, he expects each to live up to his capacities in his day to day performance. A leader is constantly studying people and their tremendous individual differences, unceasingly looking for the good in people and motivating them to expand it.
- D. Loyalty to superiors, to his peers, and to his followers. Political intrigues and dishonesty are anathema to him. He understands intrigue and knows how to fight it, but is impervious to temptation to engage in it. Loyalty does not extend to defense of wrong-doing, but in all other cases means aid in time, money or personal assistance—to the death, if necessary.
- E. Works easily and quickly. Work is a challenge and long hours do not bother him. However, he knows how to relax and does so frequently. Problems are a specialty and a leader knows how to solve them and teach others how to

deal with them. He will make mistakes, but will quickly rectify them and go on to greater accomplishments.

- F. Delegates work and authority. But understands that neither can be delegated until the recipient has been trained to handle them. Does not move faster than his following, be they public or understudies. Obtains his goals through persuasion—not force or coercion. Gives full credit to subordinates—does not personally seek the limelight.
- G. Makes independent judgments and decisions without fear or hesitation. Knows his sphere of operation and decides issues promptly. Is willing to say "no" to a superior if his honest judgment tells him he is right. At all times he is sincere.
- H. Communicates and keeps people informed of facts, decisions, and plans so they can be an important part of a working crew headed toward a common objective dear to the hearts of all concerned.
- I. He is tactful. Never forgets that people have feelings. Handles all situations with finesse in terms of each individual's needs and desires. Does not believe in "group" handling to solve problems.
- J. He is patient. Understands how people move toward action and does not hurry them, but allows time for assimilation.
- K. He is stable. He is always the same disposition. You cannot tell whether things are going well or badly by watching him. Smoothness of temperament, willingness to listen, self-control, and not too much talking are characteristics of good leaders.
- L. Standards are high and inspection, control and analysis are frequent. While details and operations are in the hands of subordinates, the leader is aware of results and does not tolerate "yes-men" around him who becloud the situation with untruths or omission. He is constantly examining and appraising ideas, people, activities, methods and products, but uses criticism sparingly and understandingly.
- M. A leader through his understanding of his people inspires them to great performance. Day by day he develops interest, enthusiasm and a sense of responsibility in his followers. These develop because of his charm, poise, tact, understanding, thoughtfulness, friendliness and courtesy—all characteristics of a great leader.

These right and good leaders are in demand at all times for positions of responsibility, be they military or civilian. How far along the road to good leadership are you?

**Self-respect is at the bottom of all good manners. They are the expression of discipline, of goodwill, of respect for other people's rights and comforts and feelings.**

—E. S. Martin



**The Adjutant  
General's School  
Manpower Control  
Division's  
LT. COL.  
PAUL A. BUCHA**



## THE ARMY'S COURSE in MANPOWER CONTROL IS AT GRADUATE LEVEL

by Lt. Colonel Paul A. Bucha

A PREDOMINATING theme influencing the decisions and actions of commanders and staff officers in the Army today is that of providing better defense with fewer dollars. Consequently, any military activity involving the expenditure of materials, funds, or manpower is receiving close and considered study by the commander before these resources are expended. New funding procedures are being devised to insure maximum economy in the expenditure of available dollars; at the same time, supply economy is constantly stressed at both the command and lowest operating level. Conservation of materials and better management of spending can result in reducing the cost of operating the United States Army. Since the Army Establishment is the nation's largest single user of manpower, the area offering the greatest potential for real economy is in its utilization of manpower resources. A graphic illustration of this potential is contained in the Army's portion of the budget submitted to Congress for Fiscal Year 1955, showing over 55% of the projected obligations for personnel costs. The true test of the effectiveness of a commander's managerial ability in the Army, is the manner in which he commits or expends the manpower resources made available to him, to accomplish his assigned mission.

To get a true perspective of the nature of Army manpower, and the problem it presents to the commander, it is necessary to analyze the dual characteristic of the Army structure. As the basic, or fundamental, mission of the Army is ultimate success in combat, certain Army organizational units have been established, whose very existence is predicated solely upon their readiness to contribute directly, to this ultimate mission. These units are the combat elements of the Army Establishment—otherwise known as the operating forces and the remainder of the Army exists only for the purpose of rendering support to them, in the form of providing services, supplies, or training.

The operating forces of the Army Establishment are usually standardized units, organized under tables of organization and equipment which have been designed, tested, and approved only after considerable research and study. These tables provide the commanders of such units with a reliable, thoroughly tested organizational structure, with manpower requirements and equipment needed, to accomplish any combat or combat support mission to which their units may be assigned. The nature of each unit is such that

its movement will not affect these requirements. Since the combat elements are the operating forces needed to accomplish the Army's basic mission, and if manpower savings are to be effected, it is only logical to assume that this goal should not be achieved by reductions in combat elements. This premise leads one to explore the area of the supporting forces, as being potentially the most fruitful.

At first glance, it would appear obvious that the only portion of the Army Establishment that need be constantly viewed with a jaundiced eye, in its demands for a share of available resources, is the area known as supporting forces. Upon further reflection, however, it should be readily apparent that supporting forces are necessary, to enable combat, or operating elements, to function properly. Service and support elements are teamed with the operating forces to make the Army an effective fighting force. The building of one element at the expense of the other will, of course, reduce the over-all effectiveness of a balanced Army team.

Although both elements, the tactical or operating, and the nontactical or supporting forces, are necessary to achieve an effective, balanced fighting force, there are several features that distinguish them. The operating forces consist of standard units, composed entirely of military personnel, maintaining a state of combat readiness and carefully developed for specific combat missions. Review and redesigning of organizational structure of these units, to reflect field experience, is continuous. Consisting of units that must be organized to accomplish workloads that are current, not potential, the supporting forces consist of both military and civilian personnel. The developmental process, involved in the formation of such units, is much shorter than the long period of study, research, and testing that precedes creation of a tactical unit. As their mission is one of support, therefore secondary to the primary combat or combat readiness mission of the operating forces, they are most vulnerable to sudden, unexpected "across the board" reductions in force that occur when missions are changed, or funds are slashed.

Although the supporting elements of the Army Establishment can look forward to recurring, and often unexpected, slashes in personnel, the task of accomplishing currently assigned missions, with fewer people, will be relatively painless because of the rapid development, in the past few years, of techniques of manpower control. These have been developed to insure that the Army, and particularly its supporting elements, will at all times be (a) using the minimum numbers of personnel and (b) making the best possible use of every person.

Accurate evaluation of the minimum manpower re-

quirements, for almost any activity performed, in the Army Establishment's supporting forces is now possible and determination as to which functional areas appear to be in the best position to absorb reductions in personnel is equally feasible. Prior to the development of the effective manpower control procedures, currently in use, determination of manpower requirements for elements of the supporting forces presented an almost impossible situation, due to their many diverse, unrelated, uncomparable functions. They include fixed installations, with each bearing its own peculiar characteristics, procurement offices, arsenals, ports, depots, recruiting stations, training centers, transfer points, schools, audit teams, warehouses, and laboratories.

Standards for comparing personnel requirements, for one heterogeneous activity with another, appear unrealistic. It is illogical, as well as impractical, to compare the numbers of personnel required to operate a training center with those needed at an arsenal. Comparisons between similar activities are complicated due to differences in location. A depot in Georgia and a similar one in Utah, justifiably, appear to have totally dissimilar personnel requirements, for similar functions. It was only natural, under such circumstances, that some higher headquarters developed a tendency to accept decisions of installation commanders, as to the number of people they needed to accomplish as assigned mission. Installation commanders, in turn, accepted the opinions of their first-line operators as to the number of people needed. The end result was what could be expected—personnel requirements were often exaggerated, sometimes unrealistically and, in other cases, were greatly inadequate.

### Scientific Management

When the smaller, as well as the larger, Army activities operate under a budget totaling thousands of dollars as they often do, and utilize a significant amount of manpower, trial-and-error techniques of management cannot be used in determining manpower requirements for any function. The process of determining manpower requirements for the numerous, varied, and costly activities of the Army involves utilizing all the procedures and techniques developed by scientific management, to arrive at sound estimates of man-hours required to perform assigned missions. As a result, a management specialist has become an essential element of any headquarters staff—the manpower control officer. This specialist must be more than a fact-gatherer who visits, or corresponds with, an installation obtaining opinions, from subordinate operating personnel, as to how many people are needed to do a job. He must be a management consultant, specialized to recognize and establish the correct relationship between a given workload and the minimum manpower required to accomplish that workload. He must be capable of assisting and advising the installation commander, or an activity chief, in methods of effecting economies of manpower. He must be capable of accurately determining the validity of justifications, submitted in support of requests, for increased personnel authorizations. He should be able to detect

flaws in methods, procedures, or organization, which may be costly in manpower.

### Effective Control

Effective manpower control, however, cannot be entirely dependent upon the manpower specialists from higher headquarters, the staff officer who comes down to ascertain how many people the operator needs to do his job, or the staff analyst who reviews justifications for manpower authorization. Manpower control becomes completely effective, when the same sense of urgency in achieving manpower economies is felt at the lowest operating level, as is felt at the command level, from whence manpower authorization come. If supervisors of all Army operated activities could be made as manpower-conservation-conscious as they are conscious of the need for conserving supplies and materiel, a long step would be taken toward achieving real manpower economy. In any situation where manpower requirements must be determined, the philosophy of "what is the minimum manpower needed" should replace the philosophy of "let's see how much we can justify."

### Maximum Justification

The philosophy of maximum justification originated in a feeling of insecurity on the part of the commander or the operator, or both—a feeling stemming from the fact that an accurate relationship, between manpower required and workload of the mission, had not been established. As a means of self-protection, the tendency to ask for the maximum was natural. An individual's ability to lead a mission did not necessarily imply that he was also qualified to determine manpower needs for that mission. Therefore, when a commander was asked to arrive at estimates of personnel requirements, and his estimates were derived from pure guesses, "safety" factors of 20 to 100 percent were usually added to compensate for possible errors, or omissions, in these computations.

The critical point in manpower control, in the final analysis, is at the operating level where determination of manpower requirements begins, and where utilization of manpower takes place. If the original step, in determining requirements, was based upon an exaggerated concept of what the minimum needs are, or if it was founded upon the philosophy of asking for the maximum, then the inflated requirement was more difficult to recognize by manpower analysts located in higher echelons of command and far removed from the actual scene of operations. Solution to this problem was found in developing qualified manpower control experts, to serve at installation level as well as higher headquarters.

Possessing many facets, manpower control involves considerably more than the determination of requirements. Including such other functions as distribution of available manpower resources, ensuring proper utilization, manpower accounting, and review and analysis it is, in some cases, a function of G1, in whole or in part; in other instances, it is split between the G1, G3, and the Comptroller staff sections.

Since manpower control has become an integral part of the management of Army business at every level,



managers of Army activities, in addition to planning and supervising the conduct of the operations, have had to assume the added responsibility of determining manpower requirements. Where can competent, trained, military and civilian supervisors be found in the Army? They must be qualified in the technical phases of an activity, and equally competent to evaluate manpower requirements in terms of the minimum rather than the maximum desired. Such personnel are extremely rare. Development of this ability to determine manpower requirements, through training of key supervisors, staff officers, and installation commanders, is the answer to the question.

#### Manpower Control Course

In 1952, the Department of the Army established the Manpower Control Officer Course at The Adjutant General's School, Fort Benjamin Harrison, Indiana. Army-wide and Army-conducted, this course was designed to give key personnel of all branches, serving in middle management positions in the supporting forces, a basic understanding in management principles and techniques of manpower control.

The course now serves two purposes—first, that of qualifying key military and civilian personnel for the job of evaluating manpower requirement, so that installations and activities of the Army can be operated efficiently, with a minimum cost in terms of manpower. As the Army faces an evertightening manpower problem, this objective assumes greater significance daily. The second purpose served by the course is to furnish executive training to field grade officers and comparable civilians, who, because of serving in supervisory or managerial positions in the Army, have a direct responsibility for utilization of manpower in many of its support activities.

Since its inception in 1952, ten classes have been graduated from the 6-week course at The Adjutant General's School. Students attending these classes have come from all major commands in the United States and such United States overseas commands as the Caribbean, Austria, Pacific, Europe, and Alaska. Graduates of the course represent all combat arms and services, as well as the technical and administrative services. Students have also come from G1 and Comptroller staffs of armies and services, from manpower survey teams, and from various supervisory positions at installation level.

Designed as an intensive training

program for field grade officers and upper grade civilians in the field of manpower control, the course also offers students training in such subjects as general management, performance analysis, the Army program system, statistics, work simplification, and manpower survey techniques and procedures. The scope and intensity of the subjects covered, compare favorably with the executive development courses being conducted, on a rapidly increasing scale for large industrial corporations, by some of the better known colleges in the United States.

In addition to lectures and conferences, which furnish the student basic fundamentals of management engineering and its related fields, a considerable portion of the course curriculum is devoted to seminar discussions of selected problems and case studies, requiring the student to apply principles learned in the course, to the actual determination of manpower requirements. Seminar work is supplemented by field trips, to enable the students to see, at first hand, examples of top civilian management in operation, and to exchange views and opinions, in conference sessions, with key executives of some of the largest corporations in the United States.

One of the most concentrated courses in the Army school system, the instruction is pitched at graduate level and the students meeting qualifications for attendance, are presumed to have the elementary knowledge in the fields of study offered.

Management training programs in the Army are not something entirely novel. Many major commands, technical or administrative services, and even installations or staff agencies, have organized formal classes designed to give employees, as well as supervisors, training in work simplification, office management, and performance improvement. This is the first time, however, that these numerous management techniques, designed to result in improved performance, have been associated directly with manpower requirements so that the final objective is to accomplish the stipulated mission with the minimum of manpower.

In addition to seeking better job performance, the Army commander is being imbued with the idea of looking for ways of reducing his personnel requirements and the ultimate objective of the Manpower Control program in the Army is, to achieve better defense with fewer dollars and less manpower.



#### CASEY JONES RIDES AGAIN — IN A B-25!

The spirit of Casey Jones flew into Virginia last fall on an Air Force Mitchell B-25 and helped to unsnarl a railroad, which had been disrupted by Hurricane Hazel. For the first time in railroad history, two Air Force officers and a Navy captain played the roles of aerial dispatchers.

The officers, Major Frank B. Evans and Captain James M. Dunn, USAF, and Captain C. W. Rooney, USN, on a routine cross-country flight between Andrews AFB and the Naval air station at Key West, Florida, received a distress call from the Atlantic Coast Line railroad via Richmond Radio in Virginia.

When Hurricane Hazel swept through the southland, the turbulent lady had broken railroad communications, fouled railroad signals and just generally disrupted schedules, with the Atlantic Coast Line losing contact with its trains.

Utilizing the B-25 as a relay point and the officers as stopgap dispatchers, the railroad transmitted schedules from Richmond Radio to Rockymount, Virginia. Later, as the airplane continued south, Radio Danville added its voice to the impromptu communication system.

Major Evans and Captain Dunn, weather officers in the USAF Air Weather Service at Andrews AFB, were profusely thanked by railroadmen, as their action quite possibly averted a disaster on the line by expediting railroad procedure.

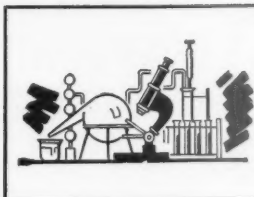
#### Java for Jitters

Coffee breaks during the working day are now being urged by many doctors. They agree that coffee increases the speed of muscular recovery, breaks tension and assists in fighting fatigue.

#### Statistical Surveys And Personnel Policies

Some executives tend to rely unduly on statistical surveys of company practices for guidance in setting their own personnel policies. If the majority are doing it, they reason, it must be good. And sometimes it is. But, in the last analysis, a company's policies and practices must be dictated by its own particular set of circumstances and the individual needs that grew out of it.

—Personnel



## Views On Supervisory Responsibilities by Chemical Depot's TO

by S. J. Tobin  
Training Officer  
Deseret Chemical Depot  
Tooele, Utah

A good Supervisor is expected to be an efficient manager, an administrator, a technician, and an instructor as well. Becoming a Supervisor involves more than merely gaining a new title; it also involves a corresponding change in attitude, thinking, and action. As supervisors must know not only their own responsibilities, but also those of their subordinates, the principal difficulty is, when a man becomes a Supervisor, his work changes from filling a single job to that of guiding the thinking and actions of twelve or more persons. This involves indifferent personal relationships and a "new" approach.

A partial list of important responsibilities for Supervisors is the following: knowing every man in his Division; knowing operating standards; knowing quality control of products or items processed; understanding inspection methods; planning work; scheduling work; controlling cost; making out reports.

Coordinating with staff members and using department facilities is important as is informing employees on policies and rules; handling grievances; making recommendations for promotions, transfers, discharges, and various personnel matters; knowing the function and operation of all department equipment; using equipment and machines to the best advantage.

Still more responsibilities include: keeping equipment in good repair; improving job methods; improving job performance; planning training; spotting training needs; scheduling training; starting and training new employees; training old employees in new skills; training understudies; giving safety instructions and enforcing safety rules.

It has been stated that Supervisors are members of the Management Team and teamwork between Management and Supervisors is mandatory. However, teamwork exists only when every man not only does his part, but knows what his part is. Personnel on both levels must cooperate in meeting their problems—especially those involving personal relationships. Maximum efficiency and personal satisfaction can be facilitated if the following aspects of human relations are recognized and if effort is made to resolve them:

How to make decisions and explain rules, regulations, and policies in such a manner as to obtain willing acceptance on the part of the employees.

How to make decisions based on reason rather than emotion.

How to get employees to live up to organization rules and regulations.

How to make corrections so that employees desire to do the job the right way, and to lead employees to want to do better work instead of defending the wrong actions they have taken.

How to handle complaints so that the organization reputation and management goodwill are protected and the employee kept productive—even though per-

sonal wishes cannot be granted.

How to analyze ideas before making decisions, to determine their real value, and to know how to consider their effect on other persons and departments in the organization.

How to create interest on the part of the employee in his job to the extent that he wants to become more efficient.

How to train employees in a minimum amount of time to do their work effectively.

How to check on work assigned in such a manner that employees welcome the check and give the Supervisor the information he needs to know.

How to delegate responsibility and authority within the limits of an employee's ability to perform, and as such to encourage them to increase their efficiency and potential value.

Coordination and cooperation can be facilitated on all levels, and safe, efficient operations expedited if Supervisors will provide leadership and accept their responsibilities for complying with the following principles:

Making careful study and appraisal of each project or operation to determine that all requirements are in order prior to starting work.

Insuring that each employee assigned fully understands the procedure to be followed and the safety, fire prevention, and first aid measures to be used.

Knowing the standards and requirements for individuals, operations, and conditions of work.

Making personal daily spot checks of operations and working conditions.

Knowing the lines of authority and channels of command.

Being familiar with and able to correctly complete all necessary forms and reports.

Knowing where you stand and letting your subordinates know where they stand—making clear cut definitions of responsibility, authority, and procedure.

Making a close study of each individual employee as to general characteristics, work and mental habits,



dress for assigned tasks, evidence of physical defects, lack of muscular coordination, carelessness, lack of interest, and/or any proneness to accidents.

Submitting reports—in writing for permanent record—to Chiefs of Section or Division concerning careless, disinterested, or incapable employees who are liable to accidents and who will not, or cannot work safely.

Referring all employees reporting to work with injuries, ill, under the influence—or suffering from the after effect—of alcohol to the Chiefs of Section or Division.

Being fair and judicious in the use of reward and  
(Continued on page 44)

# Primary Contract Pilot Training

## —Is Good Management

INCREASING quality while at the same time cutting production costs is a common practice in American industry. Enterprise and ingenious production methods both go hand in hand in hard-driving, competitive civilian concerns. Shrewd management practices have also become an integral part in military administration. The economy of the United States could not long endure the cost of preparedness if that cost was based upon out-moded concepts of management.

In the current pilot training program, the Air Force is going even farther than adopting industrial methods. It is teaming up with private enterprise to produce its end product, "the best trained pilots in the world."

Nine privately-owned corporations are currently giving all Air Force pilots more than one-third of their flying and academic training. The savings in the Air Force manpower, the flexibility and adaptability of the civilian contractors' operation and the up-to-date management practices used by these contractors, keynote the story of how industrial thinking and ingenuity are now assisting the Air Force's training program.

The concept is simple. The Air Force contracts with a flying school operator to give the complete course of primary pilot training to all cadets, students officers and foreign students, which includes both academic and flying instruction. It should be noted that, although primary training can be conducted by a civilian school, the practice does not hold true for more advanced phases of training and the reasons are obvious. When the student finishes primary, he has learned to fly and it is then that the military must take over and teach him how to use the aircraft as a combat weapon. In basic and advanced courses, the student learns techniques which change as the experiences of combat are learned. He learns teamwork in his military organization and how to become an Air Force officer as well as a military pilot. Basic schools are run along the same structural lines as combat units, therefore providing a training ground not only for the student pilot but for the administrative and support personnel as well.

The lessons learned here are readily adaptable to a combat unit in the field of military operation. The contract school operates within a framework and under definite limitations to meet its one desired objective—teaching the rudiments of flying to Air Force fledglings. Civilian contract school pilot training was originally conceived in 1939 by the late General Henry H. Arnold, who saw that the Army Air Corps was faced with a problem of immediate expansion. At that time only 500 new pilots per year were being trained at Randolph Field, Texas, and with the threat of World War II, the demand for pilot output was increased a hundred fold.

**Private Enterprise  
Teams With Air Force  
To Train The  
World's Best Pilots**



General Arnold called a group of commercial flying school operators to Washington and put the question to them bluntly, "Can you do the job?" The fact that 64 schools were in operation during World War II, turning out 250,000 pilots, proved that they not only could, but did do the job. During 1944, the peak year, 110,000 pilots were trained. When the war ended, all pilot training was terminated because of a surplus of well-trained pilots. So rapidly, however, did this surplus diminish that by the following year, it was evident that pilot training must be revived.

1947 saw autonomy granted and the birth of the United States Air Force as a separate arm of defense. Autonomy brought a need for long range planning involving expansion and training. And again, the Air Force started thinking about civilian contract pilot training.

One of the original planners during this time was Major General (then Colonel) G. P. Disosway, who is presently Commander of the Flying Training Air Force with headquarters in Waco, Texas. The Flying Training Air Force, a component of Air Training Command, is responsible for conducting all pilot, observer and specialized flying training in the Air Force. Thus it is that General Disosway has the unusual opportunity of actually supervising many of the concepts he entered into the long-range plans of 1947.

During 1947, a major overhaul of the training structure within the Air Force was in progress. The Stanford Research Institute was requested to make a study for determining the feasibility of reviving primary contract pilot training. The Stanford Report, completed in 1949, provided the basis for contract training to become a definite part of the training program. Plans at this time were complete on a long-range program building the Air Force to its ultimate goal and including the possibility of an immediate emergency with its requirement on the pilot training program. Due to budgetary limitations, the long-range program was never fully implemented until the beginning of Korean hostilities. The emergency phase of the long-range plan was immediately implemented and civilian contract flying was an immediate requirement of the training program.

The first contract was awarded to Mr. William J. Graham, a veteran of over 20 years in the training business and also a contractor during World War II. This contract was signed in January of 1951 to provide primary training at Greenville, Mississippi. The first class



of cadets arrived in March for pre-flight training and flying was under way by April. Nine contracts were in operation by November of 1952. Implementation, of course, was not accomplished without major obstacles. Members of Congress, Department of Defense officials and many others joined hands to expedite such things as site procurement, securing sufficient fund allocations and logistic support. These same nine contractors are still providing the primary pilot training phase and are: Southern Airways School, Bainbridge Air Base, Georgia; Garner Aviation Service Corporation, Bartow Air Base, Florida; California Eastern Airway Incorporated, Columbus Air Force Base, Mississippi; Pittsburg Institute of Aeronautics, Graham Air Base, Florida; Texas Aviation Industries, Hondo Air Base, Texas; Anderson Air Activities, Malden Air Base, Missouri; Darr Aero Tech, Marana Air Base, Arizona; Hawthorne School of Aeronautics, Spence Air Base, Georgia, and the Serv-Air Aviation Corporation, Stallings Air Base, North Carolina.

The two Mississippi locations of Greenville and Columbus were Air Force stand-by bases requiring a minimum of rehabilitation and, naturally, were the sites for the first two schools to become operational.

Selectivity of contractors was very rigid and on the original advertising for bids, 300 contractors responded from which only nine were selected. Selection criteria included the training and administrative experience of the prospective contractor and his key personnel, his financial stability and certain specifications which were established by Air Training Command. Bids were received and acted upon by the Directorate of Procurement, Air Materiel Command.

#### Present-Day Contract Operation

Any attempt at comparing the present-day contract flying operation with that conducted during World

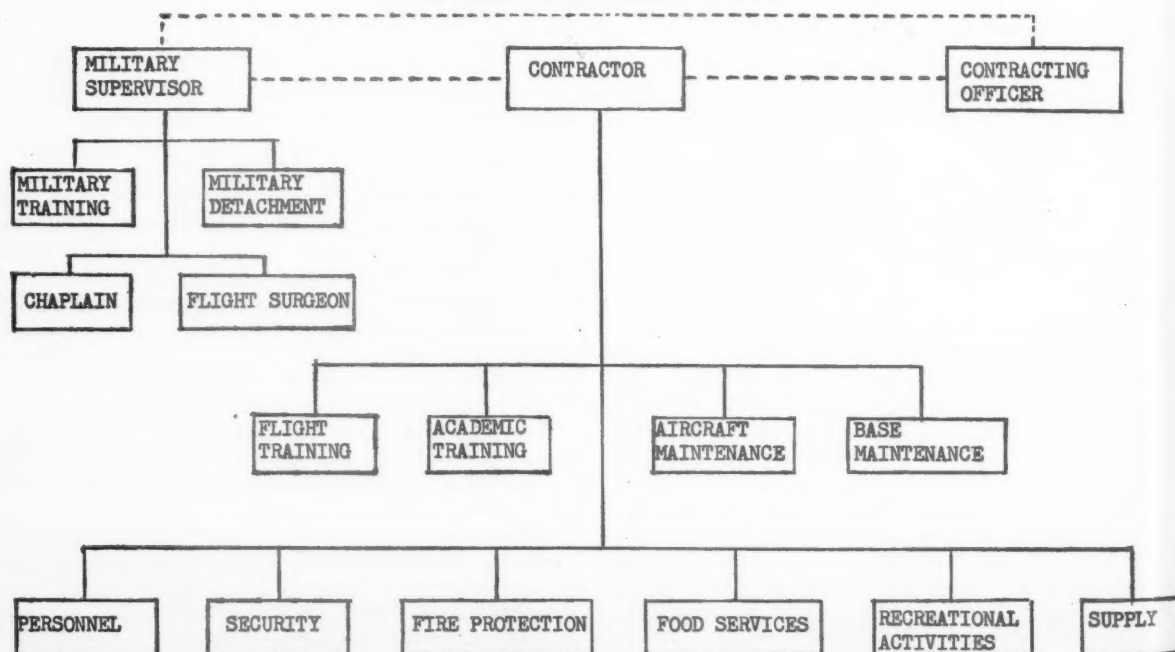
War II meets with many inadequacies. During World War II, you must remember, a temporary emergency operation was required, and although it has formed a foundation for the present operation, past experiences mainly served as a guide, through its trial and error methods. Using hindsight to develop foresight, the civilian contractors today have a smooth-running, stable organization which defies comparison with its predecessor.

To get a clear picture of how these nine contractors are currently organized and operating, let's examine the structure of a typical operation. All nine contracts are standardized on a cost-plus-fixed-fee basis, which allows direct reimbursement to the contractor for actual costs plus a payment for profit or fee based on total student flying hours. This school is organized in a unique fashion, in comparison to military structures, as the following organizational chart readily exemplifies:

It should be noted that the military supervisor and the contracting officer are military and both have surveillance over the performance of the contractor. This provides the chain of command—Headquarters USAF, Air Training Command, the Flying Training Air Force—a position, so to speak, on the Board of Directors. The contracting officer, and the military supervisor, have closely delineated areas of responsibility.

The contractor, of course, is the civilian who is charged with the responsibility of performing the contract. This provides a three-man team of supervision in an organization where requirements levied on one operation almost always affects the operation of the other. The Board of Directors concept can easily be adapted to this operation, the contractor being the chairman, supported on one side by the military commander and on the other by the contracting officer. According to the contract, the contractor is to provide

#### ORGANIZATIONAL CHART



first, all primary flying and academic training; second, housing, food, recreational facilities, supplies, support and maintenance of both base facilities and aircraft and police and fire protection; third, sufficiently qualified personnel to fulfill the contractual obligations. Also, there are several other supporting services expected from the commander. The requirement of the contractor to provide sufficiently qualified personnel stresses one outstanding advantage of this operation. By and large, civilian instructors, civilian mechanics and other technicians received their training from the Army and Navy during World War II, and normally, the utilization of these skilled people would be lost to the Air Force. However, through the contract operation, the Air Force is getting a return on its investment in training during World War II. One other note on the contract is that it is on a year-to-year basis, requiring annual renewal with the Air Force which has the prerogative to exercise at any time a 30-day cancellation clause.

Approximately 700 civilians are employed by the contractor to perform all of the services previously mentioned. The military component, which is responsible for such military training as drill, ceremonies, customs of service, etc., consists of approximately 30 people, excluding the student load which is currently programmed at 500 per base. The military provides spiritual and medical facilities to care for the moral and physical being of its personnel. All schools are basically organized under the typical structure just described.

A military commander, who has a minimum detachment of military personnel to maintain quality control and compliance with the over-all mission performance under the terms of the contract, is assigned to each school and he is also in command of the military student body. The contracting officer, a position on his staff, is assigned with the administration of the contract in accordance with the requirements of Armed Services Procurement Regulations.

Deviations from the typical organization occur primarily where strong personalities occupy key positions. This of course is nothing more than sound business management. For example, operations which may have a highly qualified individual may assume some responsibilities that in other schools would be placed within a separate division because of this same key man concept. All organizations operate on issuance of authority to department heads, thus allowing them to operate their own departments and provide a decentralization of the power of authority for the school. Generally, this is how the schools are organized and operating and this is the rock upon which every tool of management can be exploited to its maximum.

Why can a contract school operate with such savings in manpower or, as originally pointed out, increase and maintain high quality production? For one thing, there is an absolute minimum of turnover in personnel and

one has only to read about the personnel retention problem of the Air Force to get a good idea what this means dollar-wise. First, the civilians come to the contractor already trained. Second, they come there because they want employment at the specific geographical location, and they take up positions in the community just as any other civilian with a routine day-to-day job.

Further, in the matter of personnel, the contractor has complete flexibility in hiring and firing, as the employees are his and not the Government's, with the result that a certain job does not suffer while he waits for a replacement. The annual turnover of personnel is approximately 4% per year and another important factor, that minimizes this turnover, is that the contract school pays reasonable wages and in every instance, comparable to wages paid in the adjacent community. The employee has all the fringe benefits given to industry—medical and hospitalization benefits, workmen's compensation, group insurance plans, and leave benefits.

Contract employees are offered the full advantages of club privileges and in most instances there is a consolidated women's club with a membership consisting of both dependents of Air Force personnel, employees personnel and women from the local community. Most schools have an employees' credit union and a welfare fund which consolidates the many charity drives expected of a base. Welfare funds provide money for unexpected hardships and emergencies suffered by employees.

All these vary from school to school but are offered in some form or another at each one of them. Another important factor is that the civilian employee has no added duty or off-the-job requirements and can devote a full shift's work at his particular skill.

As though these main wheels of good management were not enough, the contractors oil the machinery of employees' relations with the little things that can make or break an operation. For example, competition is keen among all nine schools. They exchange ideas readily and are continually passing on from one to another ideas that have been successful at any one school.

A monthly survey of costs and operation is published by Headquarters Flying Training Air Force and every man at every contract school puts out just a little bit more when his school drops a space from the previous report. Team spirit is keen and each school considers every employee a member of that team. To maintain top production among individuals, each base has an employees' incentive award program, which provides monetary bonuses for outstanding suggestions in the improvement of school operation. The incentive program takes cognizance of suggestions which result in tangible or intangible benefits. Their criteria is to improve the operation.

From both a flying and ground safety standpoint, the contract record is excellent with awards being made to instructors, individual flights, and schools for records established in flying safety. The effectiveness of the flying safety program is emphasized by the fact that the accident rate in primary, where boys are first

(Continued on page 46)





ARMED FORCES MANAGEMENT ASSOCIATION

## NEWS and ACTIVITIES

### Division News

**Personnel Utilization Division:** J. M. Greenberg, Chairman. Selection for Combat Jobs. Discussion of research aspects on the problem of identifying personnel who will make good combat soldiers. *Speaker* was Mr. Edward Fuchs, Chief of Selection Research Section, Personnel Research Division, Adj. Gen Office, Department of the Army.

**Management and Ind. Engineering Division:** Ralph Hafner, Chairman. Manpower Management and Manpower Requirements. Seminar Discussion. Seminar Leader: Mr. Weldon T. Ellis, Civ. Deputy Director, Directorate of Manpower and Organization, Dept. Air Force.

**Accounting Systems Division:** E. T. Nolan, Chairman. Various aspects of accounting for property. Panel discussion. There will be two discussion leaders reelected.

**Executive Development Division:** Weldon T. Ellis, Chairman. Preparing a symposium for February.

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### News and Activities of Field Chapters

The recently chartered Philippine Chapter has submitted an additional list of sixteen new applicants for membership. The new officers of this chapter are: Capt. Charles S. Chamberlin, President; Mr. Frank E. Squires, Vice President, and Mr. Lewis H. Nelson, Secretary.

Requests for charters have been received from the Denver area, the White Sands Proving Ground, New Mexico, and El Paso, Texas. The El Paso Chapter will include personnel from Holloman Air Force Base, Naval Ordnance Testing Facility, Fort Bliss and Biggs Air Force Base as well as the William Beaumont Army Hospital.

The issuance of charters to the above activities will bring our total number of field chapters to twelve. A goal of thirty field chapters by 1 July 1955 has been established by the Association.

\* \* \*

On 9 November 1954 ninety-five managers attended the first meeting of the Wright Brothers Chapter of the AFMA, representing Wright-Patterson AFB; Bureau of Aeronautics General Representative, Navy; Headquarters, AMC, Gentile Air Force Depot; USAF Institute of Technology and a number of other Defense Department installations in the Dayton area. Mr. Weldon T. Ellis, Jr., Executive Vice President of AFMA, presented the Chapter with its charter and discussed the aims and purpose of the Association for the improvement of management within the Defense Department.

\* \* \*

At a recent meeting of the New York Chapter more than 50 members and guests were present representing

the Brooklyn Naval Shipyard; Picatinny Arsenal; Armed Services Medical Procurement Agency; Fort Hamilton; New York District Engineer; Northeast District Engineer; Military Sea Transportation Service, Atlantic Area; New York Chemical Procurement District; New York Port of Embarkation; and several members of the Industrial Fund Team, Office of the Chief of Transportation. Prominent among those present were Colonel Gerald J. Greeve, Comptroller of New York Port of Embarkation; Mr. George Wenninger, Deputy Comptroller, Office of Chief of Transportation; Commander A. W. Lee, Comptroller, Brooklyn Naval Shipyard; Mr. Richard Gaylord, Deputy Comptroller, New York Port of Embarkation; Mr. Bernard Hymes, Comptroller, Fort Hamilton; Mr. Daniel Sullivan and Mr. Edward Dyer of the Comptroller's staff, Office of the Chief of Transportation; and Mr. M. Turner, Office of the Comptroller of the Army.

Mr. Edward N. Kimball, Jr., member of the management consultant firm of Booz, Allen and Hamilton, spoke on the basic management control information that the top executive of an enterprise commercial or governmental, should obtain in order to be well informed on the level of performance of each element of the organization.

Mr. Kimball's talk was enthusiastically received and an active question and answer period followed.

\* \* \*

At a recent meeting of the Baltimore Chapter, Mr. Carl E. Schneider, Vice President in Charge of Industrial Relations of the Burroughs organization, spoke to the group on *Personnel Relations in Industry*. The editors of this column feel that Mr. Schneider's presentation was so meaningful it should be made available to all members of AFMA. As space limitations preclude reproduction of this presentation in this issue, we will run it at a future date.

\* \* \*

Baltimore, Field Chapter #1 of AFMA, recently held its first annual meeting and elected Cmdr. Henry P. Kniskern, Coast Guard Yard, Curtis Bay, as Chairman for the new year. This information was passed along by Mr. R. H. Hyneckal, Past President and now Director of Publicity.

Other good news from the town of the Orioles—much interest is being evinced by the City of Baltimore, towards Armed Forces Management Association. The Board of Education of Baltimore City has made available to the Chapter a permanent meeting place in Polytechnic Institute right in the heart of town. This type of news is most gratifying. Baltimore Chapter also has a membership drive underway with a goal of a thousand members for 1955.

### Management Engineering Techniques in Soviet Industry

USSR industries in many cases are using means of control and management which are considered up-to-date by American manufacturers, but the Soviets are not known to be employing any entirely new concepts. The Soviet management techniques are considered to generally lag those of the U.S. This lag may be attrib-



uted to two factors: The relative newness of Soviet industry and a difference in basic management philosophy. The former is self-evident. The Soviet "industrial revolution" did not begin until the late 1920's and early 1930's. Before that time, under the Czarists, Russian industry was crude and underdeveloped. Thus, Soviet excursions into scientific management and its succeeding philosophies came some twenty to thirty years after those of the United States. Considering the time deficit with which USSR industry was faced at the outset, the level of its management techniques is relatively high. However, it is thought likely that progress in this level may be considerably retarded in the future unless certain basic management concepts of the Soviets are altered. These concepts are emphasized chiefly by a disregard for the human frailties, emotions, likes and dislikes of the industrial laborer and an unrealistic attempt at extreme exactness in industrial planning. They are well illustrated by some Soviet management techniques.

The Ministries of various industries control their enterprises through the administration. The administration consists of a director, an engineering staff and various administrative assistants. Each administrative assistant has a definite function to perform in the overall task of enterprise, and is strictly bound to his particular function. In the interest of efficiency, and to prevent a possible misunderstanding as to who is responsible for a particular function, each individual in an administrative position is required to submit to his superior for approval, his personal plan of action a week or two weeks in advance. In some Ministries such a plan is required to be submitted a month in advance. This system enables each individual to know what he is to do next, and provides the executives with an excellent means of evaluating the progress their enterprise is making at a given time. Whenever an administration of a given enterprise finds a superior system or method of administering a particular project, it writes up that system in detail and sends it to its parent Ministry. If the Ministry of this industry determines through conferences and trials at other enterprises of the same industry, that the proposed improvement is sound and practical, it will adopt the new proposal throughout its industry. Each individual involved in the development of the improvement will receive a reward in the form of a cash prize, a free vacation at some resort, a free excursion trip, a gift of some significance such as a gold watch or a radio receiver, or a mention in the newspaper. Sometimes the reward is in the form of a promotion to a better position.

One Soviet technique, or top level management philosophy, which stands out clearly is the emphasis on cost-value relationships in military production. This philosophy attempts to optimize resources; that is, to achieve maximum return from investment of resources in air weapons, the return being in terms of over-all aircraft performance and the investment being labor, skills, material, and machine tools. For example, if an aircraft part is critical, performance-wise, the Soviets employ necessary skills, materials and machines. On the other hand it is evident that a minimal investment in resources is made to produce non-critical parts. The

results in this instance generally would not be acceptable according to USAF standards; however, these so-called lower quality parts have a negligible effect on performance. It is felt that the primary impetus for this Soviet approach was the shortage of critical resources, necessitating careful rationing through engineering economy methods. In any event, it is certainly a powerful tool in the hands of management.

Possibly one field in which the Soviets are advanced is that of plant layout and materials handling. They have shown that they fully realize the value of pre-planned plant layout, straight-line, product-type production and conveyerization. The Soviet machine tool industry has gone to great pains to derive layout parameters for different types of machines, departments, and activities. Pre-determined relationships and an elaborate set of planning principles make plant layout a simple task. It becomes obvious from a perusal of literature in this field that here Soviet exactness and preplanning do the most good. Further discussion will show that wherever standardization and technical detail are critical the Soviets have most likely attained a high degree of efficiency.

Such is also the case in the effort toward methods improvement. As recently as 1951 a Soviet engineer, Kowaljow, in studying Stakhanovite methods a theory which had been trumpeted by the American industrial engineer, Frank Gilbreth, earlier in the century. The "one best way" concept theorizes that there is one method of performing an action or series of actions which is better than all others from the economy-of-motion-and-time viewpoint. Thus, by study and design, a "best way" can be derived for every industrial process. The Soviets with their affinity to standardization of detail are without a doubt exploiting this type of methods improvement to the fullest. It should be emphasized that such a program implies the instillation of a way of thinking—an ever vigilant attitude of work simplification. This, apparently, the Soviets have accomplished.

Another field in which the Soviets seem to place much emphasis is quality control. In the rush of the USSR, in industrial development, quantity was stressed over quality and, as a result, initial scrap rates and wastages were high. However, now that the Soviets have attained a respectable volume of industrial output, they have begun to stress the importance of a quality product, especially in industries such as the aircraft industry. This attitude has necessitated the support of a strong inspection system and an attempt at developing analysis and action methods. In order to advance their inspection and analysis methods the Soviets have been developing statistical techniques evolved from theory, much of which was no doubt imported from the U.S. which began taking statistical quality control seriously in the late 1930's.

Theoretically Soviet production planning and control should operate with a maximum of efficiency.



Wisdom makes but a slow defense against trouble, though at last a sure one.

—Oliver Goldsmith

Beginning at the nationwide level and progressing downward, production in the USSR is planned in great detail. Quotas are set for every plant, every department and every worker. Sufficient material, labor and machinery are supposedly supplied. In theory the Soviet industrial system should operate like clockwork. However, it is here that a refusal to recognize the human being and a rejection of realism precludes a smooth functioning, continuous operation. Unrealistic production quotas are often assigned at a top level, and despite the fact that labor or material resources are found inadequate, when the quotas are broken down, no attempt at correction is made. The desirability of a given output rather than the feasibility thus often governs decisions.

Very close control on material inventories often leaves factories with a deficiency of certain materials essential to production at crucial times. Thus excessive paperwork requisite to gaining authorization of the supply of necessary materials holds up production long enough to compel extraordinary efforts at the end of production periods in order to meet schedules. The result is a minimal output during the initial stages of the production period and a heavy, low quality output during the final stages of the period. In general, possible results of such misplanning could be excessive costs, poor quality and overworked, dissatisfied labor. Production control is a tool and even though the science of the tool may be far advanced, if the tool is supplied impractically, the result will be unsatisfactory.

Work measurement is one of the most controversial of all management control activities. There has always been a deep-founded conflict between labor and management in regard to the amount of product that should be turned out by the worker in a unit time period. U.S. production men have used at various times rule-of-thumb methods, history data, stop watch studies, and micromotion film studies to determine time standards. Today such techniques as MTM and predetermined time standards are used by the majority of large industrial firms in the U.S. It is known that time norms or standards are extensively used by the Soviets in all industrial endeavors. However, it has also been stated that the Soviet standards engineers set norms on the basis of the best times recorded rather than average times, thus allowing an impractical, idealistic tendency to prevail. "Tight" standards so established compel workers to put in excessive effort to maintain expected production.

Furthermore, in an effort to increase production to an even greater extent the Soviets raise the quota for each individual to a performance indicative of his best recorded effort. This is an unrealistic method in that it anticipates peak production from laborers at all times. In this concept is displayed the first sign of Soviet disregard for the "humanness" of the worker. He is treated as a production machine, a mechanism which can operate at top speed continuously. This characteristic actually untrue of even a piece of production machinery is certainly not true of a human being affected by an infinite number of psychological and sociological stimuli.

Insofar as personnel management is concerned once

again the same underlying theme applies. The Soviets have established adequate technical controls but have disregarded the psychological needs of the individual. They utilize wage incentive plans, job evaluation plans, and many other of the systems that have been derived in order to convert the handling of the individual into a scientific and rational process. However, in doing so they have assumed an attitude of indifference toward the worker's desires, emotions, and ambitions. The worker is very closely controlled by the plant Communist party, the MVD, inspectors, and supervisors. He can be penalized, fined, moved to another location with very little effort by his supervisors. He is just part of the labor force which in the USSR is a commodity. This attitude of the Soviets by all modern concepts would create poor personnel relationships in a capitalistic, democratic country.

Soviet management techniques are moderately far-advanced in the more technical "Scientific Management" type fields. However, USSR industry has not as yet entered that phase of management improvement which U.S. industry has been going through since the 1930's, the formulation of solid personnel policies. In fact, the Soviet attitude toward labor is remindful of the Frederick Taylor days—"the one best way", "the efficiency expert" and "Bull-of-the-woods" management—as contrasted. The USSR may or may not see the light—it seems doubtful whether it is possible for a totalitarian, socialistic state to adjust itself to such a movement.



### More Punch in Presses

(Continued from page 21)

payroll, purchasing, accounts payable, and all the other clerical functions that can be logically, efficiently or effectively combined, so that the other divisions and division heads will be free to concentrate on the important aspects of their work. As a result of our efforts in this direction, combined with the fact that the whole organization has an allergy toward red tape and paper work, we have been able to keep the total of the supervisory and clerical personnel (which includes factory personnel in these capacities such as foremen, storekeepers, etc., but excludes tool designers and research draftsmen) to less than 10 per cent of the total number of employees.

### Workers Assist

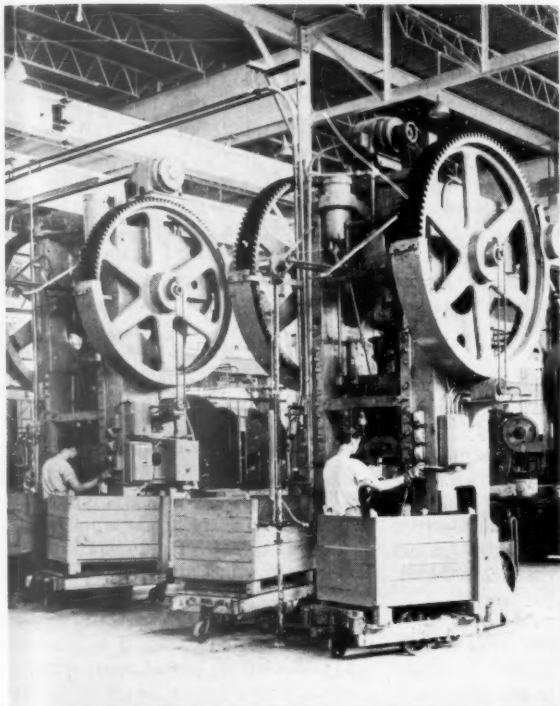
Perhaps ARMED FORCES MANAGEMENT readers will be interested in knowing how we put into effect such a program of changeover as has been accomplished in both the shop and office. It was our experience that no matter how interesting the theory you have in mind may be, the most effective manner to sell the program is to adopt the tried and true method of selling it from the bottom up. We simply took the scale models of machinery, laid them out as best as we could, and then called the production men themselves and asked them to work with us in following through certain parts to see how the layout would work. We didn't work in large groups and we let the

ideas filter through without going into theoretical discussions.

#### Results:

It is very difficult to factually appraise the success of this move. Products have changed, volume has materially increased, and dollar figures cannot be com-

### WHAMO! And Out Comes Another Hinge Arm



*These are part of a battery of 245-ton presses used for heavy formations. The very latest safety devices protect Atwood's workmen.*

pared because of accounting changes. It is perfectly clear, however, that the average distance that material moves has been cut approximately 80 per cent. This has enabled a 50 per cent reduction in the number of people involved in internal trucking. In terms of mechanization, there is no longer anyone on the payroll who carries the job classification "hand trucker." Fork trucks, cranes, conveyors, chutes and elevating mechanisms are used to the exclusion of hand trucking as far as productive operations are concerned.

It doesn't take any charts or tables to tell that the volume of production per square foot of floor space has been materially increased. Similarly the flow of work from raw material to finished part is smoother and much more easily accomplished in terms of follow-up effort. There has been a decided improvement as far as supervision is concerned as departmental buck-passing and friction has been largely eliminated.

We consider our achievements to date to be only a start in reducing costs and improving production methods and the opportunities for further improvement, through a restudy of layout and the development

of means of flexible mechanical handling, are now in hand.

To be a bit facetious, we'll say, there is really nothing to it! All that we had to do was build a new plant, sell the ideas that have been mentioned here to a few hundred people, reassign the foremen and other supervisors who stayed with us, develop a new production control system, new material handling methods, new cost accounting procedures, and do a little work in the meantime to make sure we weren't making a colossal boner.

#### Western Union Does It

*(Continued from page 9)*

served by a strategically-located, high-speed message center that handles from one to six states.

Under the old system, a telegram might pass through two or three relay offices. Since it was handled by three or four people at each relay point, not less than 5 and as many as 14 people were involved in the transmission of each telegram.

Now, with the present highly-mechanized system, only 3 persons are involved in the entire operation. One operator types the message, on perforated tape, for automatic transmission; one in the area center simply pushes a button; and one at the destination receives the message. This is how it is done. The sending operator types a routing symbol at the beginning of each telegram. That symbol causes an electronic "brain" at the message center to route and flash the message to the destination message center. From there it is push-buttoned to the delivery point. There is no manual retransmission of the message anywhere along its route. It is typed only at the point of origin and thereafter the high-speed, automatic transmission system does the rest, sending it over distances as great as coast-to-coast in a matter of seconds.

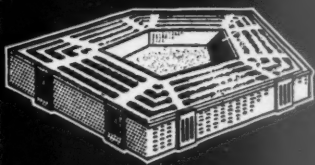
In addition to improving the speed and efficiency of public telegraph service, Western Union's highly mechanized system has made possible a great expansion of its private wire networks for heavy telegraph users, including the government, the military services, and the larger industrial organizations. Thousands of these private wire systems, using more than 1.5 million miles of telegraph circuits, are now in use to speed intra-company communications, and more are constantly being sold.

The world's largest private wire network is the specially-designed, highly automatic system installed by Western Union for the United States Air Force. The U.S.A.F. system uses more than 130,000 miles of line circuits and links more than 200 Air Force stations throughout the country.

Another important government private wire network, designed and maintained by Western Union, is the 32,000-mile system leased to the Civil Aeronautics Administration. This system serves 700 stations coast-to-coast and is used by the C.A.A. seven days a week, in cooperation with the U.S. Weather Bureau, for quick, national distribution of weather condition reports which are used to guide civil and military aircraft flights. The data also serve as the basis of weather

*(Continued on page 45)*





# Washington Management

**DEPARTMENT OF DEFENSE** is forging an armada of giant jet bombers which will be capable of delivering hydrogen bombs anywhere in the world with the cost running over 4¼ billion dollars, \$4,300,000,000 to be exact.

Defense Department Officials indicated the powerful new "instant retaliation" force will consist of about 350 B52 bombers, which fly more than 600 miles-an-hour, and 200 tanker aircraft for in-flight fueling. B52s can carry either "ordinary" atomic weapons or H-bombs, but are designed chiefly for the latter.

The all-jet fleet, designed for immediate counter-attack in event of war, will be organized into 11 wings of the Strategic Air Command. These wings now fly much slower B36 super bombers, at present this nation's chief means of delivering the H-bomb.

The new hydrogen bombing force will have four more wings than announced previously by Air Force Secretary Harold E. Talbott. One official said "we are racing against time," an obvious reference to Russia's growing bomber and fighter strength.

Officials said it will take several years to build the new fleet and forge it into a fighting force. The planes will be long-range brothers of the B47 Stratojet medium bomber. The Air Force now has 1,000 B47s with another 1,000 on the way.

**VETERANS ADMINISTRATION** has begun the job of paying a \$200 million dividend on National Service Life Insurance policies. Both NSLI and USGLI policyholders that are eligible, will receive a dividend for each month the insurance is on a premium-paying basis during the policy year ending in 1955. A single check will cover the total payment.

**DEPARTMENT OF THE ARMY** announced that an Army Ordnance Weapons Command will be established with headquarters at Rock Island, Illinois effective the first of this month. Major General E. L. Cummings, Chief of Ordnance, said that this action provides a single field command, assigned the responsibility for direction of the development, procurement, production, maintenance and major aspects of supply management of many of the complex weapons

system which have become an essential part of the Army. The new Weapons Command, whose Chief is Brig. General T. A. Weyher, will be responsible for the wide range of small arms and artillery weapons, from the pistol and rifle, through machine guns and mortars, to heavy artillery such as the new 280mm cannon.

**DEPARTMENT OF THE AIR FORCE.** An Air Force Committee for the Improvement of Paper Work has been created to replace the former Printing Committee. Members include Assistant Air Force Secretary Lyle S. Garlock and Administrative Assistant J. J. McLaughlin.

**DEPARTMENT OF DEFENSE** will begin charging fees for a number of special services provided to the general public, such as searching its records and issuing duplicates of military discharges. The new schedule of fees, which will go into effect 1 February, was drawn up by an ad hoc committee from the Army, Navy and Air Force.

**DEPARTMENT OF DEFENSE.** A recently published guide to aid industrial management in resuming production, following damage caused by fire, explosion, sabotage or enemy attack, is available from the Government Printing Office for 35 cents. The booklet, entitled "Industry Guide to Planning for the Restoration of Production," is based on a group of nearly 60 studies prepared for the Air Force by industrial concerns representing 13 different industries.

**DEPARTMENT OF THE ARMY.** An inventory of civilian personnel of officers and specialists in the Army establishment will be taken in the near future. This is intended to make possible, for the first time, consideration

of civilian personnel office employees for personnel positions throughout the Army.

**DEPARTMENT OF DEFENSE.** \$155 billion is the current value of Department of Defense holdings in land, buildings and inventories of supplies and equipment. This sum is one-fifth greater than the total net assets of the 3444 leading corporations in the United States. The Washington Management of this gigantic enterprise to insure world peace, is the responsibility of a dedicated few of the Nation's leaders.


**DEPARTMENT OF THE NAVY.** Assistant Navy Secretary James H. Smith, Jr., announced recently that the Glen L. Martin Company is building America's first jet seaplane. The plane was identified as the P-6M Seamaster, a multi-jet seaplane with a large bomb bay.

**DEPARTMENT OF THE AIR FORCE.** The new Air Force Procurement Instructions, a four-inch-thick volume containing instructions governing the conduct of all Air Force purchasing and contracting, has been announced for sale to businessmen.

**DEPARTMENT OF THE ARMY.** During the first quarter of FY 1955, manpower authorizations for the major commands and staff agencies were reduced by 57,273 military and 11,035 civilian personnel spaces.

**DEPARTMENT OF THE NAVY.** Contracts were awarded for two rotor-cycles, a one-man portable helicopter, for the United States Marine Corps. The new flying machines will be used, if proven successful, for battlefield observations, liaison, escape and small unit maneuvers.

**DEPARTMENT OF THE ARMY.** Contracts totalling \$44 million have been awarded for the construction of 90 standard permanent type barracks, to house 23,000 troops at 21 Army posts. Actual cost for a barracks alone runs approximately \$1600 per man housed.



## WHY DELAY?

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MANAGEMENT**

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# What's NEW in Suggestions?

**FORT SILL, Oklahoma**—Here's something new in suggestions. For his suggestion of a new method of unloading fresh fruit and vegetables for storage, a \$25 check and an Efficiency Award certificate were recently presented to Lieutenant Leon H. Bell, Commissary Officer. The award was given Lt. Bell by Lt. Col. Edward A. Ryan of the TAC G-4 Section. Why not write Lieutenant Bell and learn how he did it?

**BADGER ORDNANCE WORKS, Baraboo, Wisconsin**—Mr. H. W. Perry was awarded \$25 for his suggestion for flaring the loading tracks and ramps in powder trailers, to facilitate loading and unloading operations and save wear and tear on trailer wheels. Mr. Ralph Densmore and Mrs. Margaret Schiffmayer were additional winners according to a recent announcement by Resident Manager J. C. Stewart.

**NAVAL AIR STATION, Cecil Field**—Bruce G. Pendelton, ALC and George L. Duval, AL2, were recently awarded letters of commendations for discovering the cause of landing gear failures on the F2H-2 Banshee jet fighter. The problem, which had baffled scientists, engineers, technicians and Navy maintenance officers for almost five years, was found by these two electricians to be mistakenly connected wires.

**SAVANNA ORDNANCE DEPOT, Illinois**—Colonel L. A. Burbank, Commanding Officer, recently presented suggestion checks to Henry M. Jaeger and John L. Smith. In a general statement at the time of the presentation, Colonel Burbank said, "We all stand in need of extra greenbacks for groceries, sawbucks for sorry budgets and lucre for little luxuries. Good suggestions pay off! Can you make worthwhile suggestions? Of course you can! Look around you and think."

**NAVAL AIR STATION, Alameda, California**—In 1949 three men put their heads together and came up with a tool to install wrist pins in rotary engine connecting rods, quickly and accurately. In addition to cash awards

and with Navy Department assistance, Virgil R. Crumpacker, John Chatten and Lester Fenstermaker are securing a patent, in their names, to safeguard commercial interests. Savings of \$10,000 yearly, in addition to an 80% savings in man-hours, are due to this suggestion.

**FLEET AIR DEFENSE TRAINING CENTER, Virginia**—A suggestion offered to convert two boiler houses, from manual to automatic operation, is saving \$17,900 annually in salaries.

## First Customer Attitude Survey in PX History

Believed to be the first time in post exchange history that a survey of exchange customer opinions has been attempted, a nationwide poll of military customers, to determine their attitudes toward their exchanges, has been undertaken.

In commenting on this new approach to good customer relations, Major General H. L. Peckham, Chief, Army and Air Force Exchange Service, said, "This Survey is one of a number of steps which we are taking to encourage our men and women in uniform to let us know how we can serve them better. It should help us to determine any weaknesses and to correct them as well as give us a guide for future planning."

The Survey is being conducted by the Bureau of Social Science Research, American University, Washington, D.C. It is being paid for out of Exchange funds, and no appropriated funds are involved. The Bureau has sent interviewers to poll customers at Army and Air Force installations which they selected as representing a cross section of stateside posts and bases.

The questionnaire covers a wide range of subjects. Patrons are being queried on their views toward the essentiality of various types of exchange outlets, the quality of service in each, as well as their opinions on prices in retail, food, service, and concession activities.

In addition, the poll covers the type and scope of merchandise carried,

salesclerk attitudes, frequency of visits by customers to exchange activities, and the views of the customers on hours of operation, location of stores, and related matters. Individual comments on other aspects of exchange operation are also encouraged in the questionnaire.

General Peckham noted that dependents of military personnel are not being interviewed directly, as the Bureau of Social Science Research believes that their attitudes will be reflected in the servicemen's replies. There are, however, some specific questions directed to the servicemen with respect to the reactions of their dependents to exchange policies and activities.

A total of 2400 enlisted men and 160 officers is being polled. This group represents a sampling of single and married, short and long-service personnel, and high and low ranks. The installations chosen by the Bureau are both large and small, and widely distributed geographically.

The Army installations participating in the Survey are: Fort Jay, Fort Campbell, Fort Bragg, Fort Jackson, Fort Sill, White Sands Proving Ground, Fort Bliss, Fort Lewis, Fort Ord, and Fort Belvoir. The Air Force installations are: Alexandria AFB, Chanute AFB, Patrick AFB, Reese AFB, Sampson AFB, Smoky Hill AFB, Stewart AFB, and Travis AFB. In addition, Madigan General Hospital, Fort Lewis, Washington; and Beaumont General Hospital, Fort Bliss, Texas, are included in the Survey.

## EXECUTIVE—Here Are A Few Definitions

It's possible that executives take themselves too seriously. So, here are a few definitions of executives that are worth noting:

One goes: "An executive is one who goes out and finds something that needs to be done. He then finds somebody willing to pay for it. Then, he hires somebody to do it."

Another: "An executive is a man who goes around with a worried look on the face of his assistant."

Among non-executive cynics, a favorite definition appears to be: "An executive is a big gun—that hasn't been fired yet."

—Public Relations Journal

"No war, no strike, no depression, can so completely destroy an established business or its profits, as new and better methods, equipment and materials in the hands of an enlightened competitor." —*The Society for the Advancement of Management.*



**FORT DIX**, New Jersey. The Fort Dix Property Disposal Section reported a savings of \$187,700 over a nine-month period, through the sale to civilian sources of kitchen waste, scrap material, salvage goods and a limited quantity of surplus material. In the announcement, made by Major General C. S. Ryan, Commanding General of the Post and the 69th Infantry Division, he pointed out that this sum represented a purchasing power equivalent to supply 1000 incoming recruits with the initial clothing issue, costing \$188 per man.

**ARMY-AIR FORCE EXCHANGE SYSTEM**, New York. Savings of \$267,800 during the past fiscal year were realized by the pooling of less than carload shipments into carload movements on freight out of Chicago, to the east and west coasts, and on freight out of New York for the west coast for later shipment to overseas exchanges.

**FORT McCLELLAN**, Alabama. Known as Operation Paper Chase, with the purpose of recommending how the administrative work load can be reduced, the survey team was appointed for the investigation at the request of company commanders, who reported an excessive load on unit administrative sections.

**DEPARTMENT OF THE AIR FORCE**. Special attention to aircraft clocks has been directed to all Commanders. New clocks presently cost the department more than \$1 million per year. With annual loss running approximately \$350,000 per year, conservation in this area is needed. **ARMED FORCES MANAGEMENT** welcomes ideas on implementation for dissemination.

**NAVAL SUPPLY DEPOT**, Seattle, Washington. Responsibility for the disposal of all wartime surplus material in the Aleutian chain has been assigned to the Disposal Division of NSD Seattle. This mammoth program, involving the sale of 35,000 tons of scrap, must be completed by October 1957. Announcements of the sale have been mailed to 500 prospective bidders.

**CORPS OF ENGINEERS**, United States Army. The Army Engineers

have recently converted the last of four major overseas construction contracts from Cost Plus-A-Fixed Fee type (CPFF) to Fixed Price Type, with an estimated savings of \$14 million.

**COLUMBUS GENERAL DEPOT**, Ohio. A savings of \$2,500 was realized by the design of an elongated pallet for use with a lumber carrier. Approximately 35 boxes may be carried on the 4'x22' size pallets, eliminating a semi-trailer, truck and operator.

**SAN FRANCISCO NAVAL SHIPYARD**, California. By the application of conservation methods on selected jobs ranging from aircraft carrier conversions to small job orders, the San Francisco Naval Shipyard reported an estimated savings of more than \$500,000 in Fiscal Year 1954.

### Do-It-Yourself

(Continued from page 10)

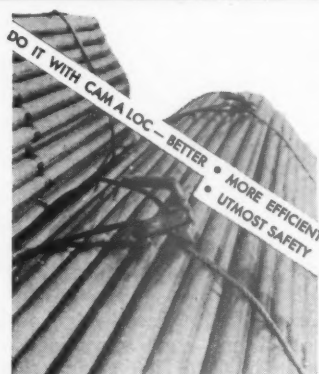
company which would some day take its place on the New York Stock Exchange, along with other great companies bearing the name of General, such as General Motors and General Electric, the believer in long-range planning selected the name of General Tire and Rubber Company. Thirty-eight years later, this company's gross sales amounted to over a fifth of a billion dollars for a single year.

With interests in hundreds of varied fields, including rubber accessories, tire fabrics, synthetic rubber, mechanical rubber goods, guided missiles, forward firing rockets, chemicals and plastics, the company now has sixteen domestic plants and fourteen foreign affiliates, excluding radio and television stations and a major interest in the Mutual Broadcasting System.

Through its Aerojet-General division, headed by former Secretary of the Navy Daniel A. Kimball, General Tire has become an important factor in the rocket, guided missile, rocket chemical and marine missile development fields.

Major advancement also has been made in the chemical and plastic fields. Chemical plants, capable of meeting the raw material needs of General's expanding chemical and plastic industry, have moved General's manufacturing network to Ashtabula and Mogadore, Ohio, and to Marion, Indiana. The Marion Plant is a huge plastics operation producing such things as foam rubber, Sy-loy safety signs of polyester laminates, and many other new things.

The do-it-yourself approach seems to have hit the success jackpot.



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## NEWS BRIEFS

from the

## SERVICES

**FORT BRAGG, North Carolina**—Improved management, reports the comptroller section, has saved Fort Bragg \$55,000 during the first quarter of 1954. In addition, the report to Third Army shows a total of 14,790 man-hours saved, as a result of management improvement.

**DUGWAY PROVING GROUND, Utah**—A new \$181,000 Post Exchange—a modern version of the old general store—was recently opened for Dugway military and civilian personnel. The new store includes a playpen for children as an aid to mother while she is doing her shopping.

**USS FORRESTAL (CVA 59)**—Launching ceremonies were held last month at the Newport News Shipbuilding and Drydock Company, Virginia, for the first of a new and larger class of fast attack aircraft carriers, to be manned by a complement of 466 officers and 3,360 men. The *Forrestal* will carry approximately 90 planes and is equipped to fuel both jet and conventional aircraft. Commissioning date is presently scheduled for Fall of 1955.

**WRIGHT-PATTERSON AIR FORCE BASE, Ohio**—Major General Carl A. Brandt, USAF, having been named as the Commanding General of the Technical Training Air Force, assumed the new command early this month, succeeding Major General E. L. Eubank, USAF, who retired 31 December.

**USS MISSISSIPPI**—was the site of a successful demonstration of the Navy's new anti-aircraft missile Terrier, during the Atlantic Fleet's largest post-war exercise LANTFLEX 1-55.

**U.S. NAVAL BASE, Guam**—Dedication ceremonies were held recently for the new 350-bed hospital, the Navy's most complete medical facility in the Western Pacific. Costing \$14.5 million, it is a four-story, 11-unit structure built to withstand typhoons and earthquakes. Its eight wings include modern wards, laboratories, operating rooms, and a 430-seat theater. Navy Surgeon General Admiral H. L. Pugh, USN., made the dedication address.

**FORT SHERIDAN, Illinois**—The

79th AAA Battalion completed its move to Fort Sheridan from various anti-aircraft sites in the Chicago area. The 79th, one of the units in the 22nd AAA Group, will be reorganized to operate Nike missile defenses in the area.

**USS IOWA (BB61)**—A program of improvements, touching on all operations and activities of the Ship's Service Division, has shown remarkable progress in the Ship's Store. Haircuts on an appointment basis, with crew members free to choose appointment time and barber, have proven a morale builder. The soda fountain, long a shipboard favorite, has added new products and methods of serving.



**ALABAMA ORDNANCE WORKS, Sylacauga, Alabama**—Rehabilitation, involving the expenditure of approximately \$46 million, has begun at AOW with the program effecting seven production lines of smokeless powder and other explosives, together with their supporting facilities. Two years are estimated to complete the work, which will provide employment for over 4,000 construction workers.

**WHITE SANDS PROVING GROUND**—was the recent recipient of a Certificate of Appreciation, from the National Executive Committee of the American Legion, for its employment of disabled veterans.

**SONDRESTROM AIR FORCE BASE, Greenland**—A United States Air Force C-47, assigned to this command, successfully landed and took off from a 10,300 foot point on the Greenland ice cap. The ski-equipped transport carried jato units to assist, but found they were unnecessary.

**FORT CARSON, Colorado**—Major General John G. Van Houten, USA, has assumed command of the 8th Infantry Division. Prior to this assignment, General Van Houten was deputy chief of staff, for administration,

at USAREUR Headquarters in Heidelberg, Germany.

**MALLORY AIR FORCE DEPOT, Memphis, Tennessee**—The first electronic computer, known as ELECOM 125, was recently ordered for the Air Materiel Command. Acquired on a lease basis at a cost of approximately \$10,000 per month, this Underwood Corporation computer can handle data at the rate of 2,000 digits per second.

**BUORD, UNITED STATES NAVY**—Rear Admiral Frederick S. Withington, USN, became Chief of the Bureau of Ordnance on 1 January. Admiral Withington, who formerly served as Director of the Navy's Atomic Energy Division, has been Deputy and Assistant Chief of the Bureau since 1953.

**OTIS AIR FORCE BASE, Massachusetts**—A newly activated Airborne Early Warning and Control Wing, to be equipped with the Super-Constellation RC-121C aircraft, adds another link to the air defense of our country.

**FORT EUSTIS, Virginia**—The world's first military airport designed and equipped for helicopters was dedicated last month and was named for Warrant Officer Alfred C. Felker, a graduate of the first helicopter pilot school who was killed in 1953.

**CAMP LEJEUNE, North Carolina**—The 2d 155mm Howitzer Battalion, a "Fleet Marine Force Type" organization, was activated recently and attached to the Marine Corps Base Command. Lt. Col. Kenneth C. Houston, USMC, has been designated as Commanding Officer.

**EIGHTEENTH AIR FORCE (TAC)**—Major General Chester E. McCarty, USAF, assumed command of the 18th in colorful ceremonies. General McCarty flew 99 combat cargo missions into Korea during the wartime operations on that peninsula.

**NAVAL AIR STATION, Alameda, California**—Work has started on an extension to a runway at NAS Alameda, under a \$339,194 contract. The 800-foot extension to Runway 13-31 will bring its total length to 8,000 feet.

**ROCKY MOUNTAIN ARSENAL, Denver, Colorado**—Department of the Army has approved plans for the construction of an \$8 million Ordnance Corps ammunition plant at this Chemical Corps installation. The new plant will be geared to the production capabilities of the adjacent Chemical Corps filling and loading plant.

**USS GLACIER**, United States Navy Icebreaker—recently launched by the Ingalls Shipbuilding Company at Pascagoula, Mississippi, is the newest and largest icebreaker in the fleet. Equipped with pontoons fore and aft which will give the ship extra buoyancy, she is expected to operate more efficiently in Arctic icefields.

**MARINE CORPS AIR FACILITY**, Santa Ana, California—Marines at MCAF raised more than \$50,000 for the 1954 polio fund by a unique "march" from Hollywood to Santa Ana. Master Sergeants Jack Kidd and Norman Laursen, both World War II POW's, volunteered for the job. The "March for Dimes", a 60-mile trek, began four days before a scheduled dance in the huge hangar, reported to be the biggest dance floor in America.

**NAVPUR, PEARL HARBOR**—Nine members of NavPur recently attended a series of discussions, entitled "Let's Talk Business", which was presented by the Bank of Hawaii in Honolulu. Approximately 75% of NavPur Pearl Harbor purchases are made from firms in the "small business" category. The conference was a successful meeting of local merchants and the United States Navy.

**STRATEGIC AIR COMMAND**—The new F-101 Voodoo, manufactured by McDonnell Aircraft Corporation, and reputed to be our "hottest and most popular fighter," will make first assignment debuts at overseas SAC bases. The Voodoos (about 100) will be able to ride escort on the B-47 and B-52 bombers, fight off interceptors and even sweep ahead at full speed, blasting enemy air defense bases with A-bombs.

**NAVAL AIR STATION, Norfolk, Virginia**—The first flight from the reactivated USS INTREPID was made recently by a NAS helicopter. The INTREPID, undergoing sea tests, was about 20 miles off Cape Henry and had no planes on board at the time assistance was needed.

**GEORGE AIR FORCE BASE, California**—The 479th Day Fighter Wing was the first Air Force tactical unit to receive the new North American F-100 Super Sabre, sweptwing jet. The F-100 is the first operational jet designed to fight at supersonic speeds, and made the new world's speed record of 755.149 miles per hour.

#### HELPMATE

Marriage entitles women to the protection of strong men who steady the stepladder for them while they paint the kitchen ceiling.



## Letters to the Editor

Dear Editor:

Congratulations on the vision you have shown in entering the publishing field with ARMED FORCES MANAGEMENT. It fills a real need in this country and should be immediately accepted as the "trade paper" for people both in and out of the service who are concerned with getting a full measure of defense for every dollar spent.

Dear Editor:

Having been a purchasing agent for several years, I have long awaited a magazine like ARMED FORCES MANAGEMENT which recognizes the vast potential of military procurement and the effect of an organized distribution of information to this potential . . .

#### U.S. Navy Underwater Sound Laboratory

Fort Trumbull, New London, Connecticut

Dear Editor:

I have just finished reading the December issue of ARMED FORCES MANAGEMENT, and wish to find out for my satisfaction if the news item you carried on page 34 (lower left hand corner) concerning the Recruiter at Rockford, Illinois, is correct or not.

Frankly the idea of a 19 year old Chief in the U. S. Navy is rather startling. The minimum time between first class to Chief is 3 years, between

second and first is one year, between third and second, one year. If the man had been enlisted at the minimum age of 16 or 17, he still couldn't have possibly been advanced to Chief by the time he was 19, unless the Navy has scrapped its service-wide competitive advancement system.

Or is it possible that *you* made a typographical error and meant to say 29, instead of 19?

Sincerely yours,  
(signed) Charles Lee Riddle,  
PNC, USN

Dear Chief:

Thanks for your letter of 8 December regarding the item on Rockford's wide-awake Navy recruiter.

It seems necessary that the editor plead innocent of any wrong-doing in this case, and we can't chalk up a boo-boo on our imperturbable printers.

Although the item read, "19-year sailor," perhaps it should have been clarified, as "Veteran 19-year-service sailor." Chief Engineman Ronald K. Scales will soon have two decades in Navy service to his credit and he does look a shade older than a teenager.

We appreciate hearing from you, Chief Riddle, and we hope that we may hear from you again.

Sincerely yours,  
LeRoy F. Holst,  
Editor.



#### Dearth of Letters Reminds Editor Of Barnum Yarn

The dearth of *Letters to the Editor* in this month's column reminds your frustrated Boswell of a classic statement, attributed to the founder of "The Greatest Show on Earth"—Phineas Taylor Barnum.

Recognizing the value of publicity early in his career, when he cornered a couple of bibulous members of the Fourth Estate in a popular New York pub, he said, "I don't care WHAT you say about me, but for Heaven's sake, SAY IT."

Having been called a lot of things during his journalistic career, AFM's editor was only perturbed over one, anger-born, epithet—"old goat."

We'd certainly like to hear from our readers on suggestions for improving the magazine—gripes, news, conservation ideas or management programs. Although we're not averse to compliments, you can even call the editor—"old goat!"

#### PROBABLY NEEDS SPURS

"So you're a young man with both feet on the ground, eh? What do you do for a living?"

"I take orders from a man with both feet on the desk."

#### THOUGHTS

Luck is the crossroad where preparation and opportunity meet.

Depend upon a rabbit's foot for luck, if you will. But remember, it didn't work for the rabbit.

—Good Impressions



# SERVICE SCHOOLS

**THE JUDGE ADVOCATE GENERAL'S SCHOOL, Charlottesville, Virginia**—In addition to the regular and advanced courses for judge advocates, The Judge Advocate General's School now offers courses in Procurement Law and Contract Termination for officers and civilian attorneys of the Armed Forces. Courses range from three-day seminars to three-week conferences.

**THE SOUTHEASTERN SIGNAL SCHOOL (TSESS), Camp Gordon, Georgia**—recently completed a full year without a fatality, either on or off post. During this period, the big Signal Corps School numbered some 30,000 students and 2700 cadre personnel.

**ARMY INFORMATION SCHOOL, Fort Slocum, New York**—Another eight-week information course starts on the 10th of this month for Army troop and public information officers. The school, with courses in news writing, teaching methods, press photography, policy, speech, radio and TV techniques, is the only one of its kind within the Department of the Army.

**ARMY AVIATION SCHOOL, Camp Rucker, Alabama**—A monthly publication for the Army aviation field has been approved, with responsibility for editing assigned the Aviation School. Entitled "Aviation Digest Of The Army", the entire staff of ARMED FORCES MANAGEMENT wishes to extend congratulations to the school with best wishes for every success for the future.

**NAVAL DENTAL SCHOOL, Bethesda, Maryland**—Captain Curtiss W. Schantz, DC, USN, has assumed duties as Commanding Officer of the Naval Dental School. Captain Schantz, prior to this assignment, was Dental Officer at the U.S. Naval Academy.

**FORT SHERIDAN, Illinois**—One-hundred and fifteen officers and enlisted men serving as Army Reserve Advisers in the Fifth Army Area recently completed a week-long indoctrination course directed by the Office of the Chief of Army Field Forces.

**FORT MONMOUTH SIGNAL SCHOOL ON WHEELS**—This novel school, famous for its course entitled

"Unit and Organizational Supply" and consisting of a study in distribution systems, use and content of publications, inventory, preventative maintenance and open forums on supply problems, has completed the Fifth Army Area tour. Having completed 15 courses at Fort Riley, Fort Carson, Fort Leonard Wood, Fort Sheridan and other installations, the school will invade the Fourth Army Area early this month.

**AIR FORCE ROTC UNITS**—With the largest enrollment in Air Force history, numbering 103,970 students at the 206 colleges and universities, are the major sources of flying training prospects. Of the 14,000 who will graduate next year, 75% are expected to request flying assignments.

**THE INFANTRY SCHOOL, Fort Benning, Georgia**—The reorganization effected at the Infantry School, completed during the first quarter of FY 1955, resulted in the elimination of requirements for 56 officer, 19 warrant officer, 755 enlisted and 18 civilian spaces. Additional supporting activities and the release of 70 temporary type buildings add to the tremendous savings without a reduction in student load.

**ANTI-AIRCRAFT ARTILLERY AND GUIDED MISSILE CENTER, Fort Bliss, Texas**. Impressive dedication ceremonies were held for the new \$2½ million Hinman Hall, located in the heart of the main post. It will be occupied by administrative and class operations.

**FAR EAST AIR FORCES**. South Korean pilots began training in flying

jet planes early this month with training and transition under the direction of Far East Air Forces.

**ADJUTANT GENERAL'S AND FINANCE SCHOOL, Fort Benjamin Harrison, Indiana**. Ground breaking ceremonies were held recently for the new combined AG and Finance School. The multi-million dollar structure, slated for completion in July 1956, will house the executive, administrative and academic activities of both schools.

## Promoting The Will To Work

Promoting The Will To Work—A Guide to Sound Management-Employee Relations, (Civilian Personnel Pamphlet No. 50) has just come off the press. CPP No. 50 is intended for use by civilian personnel officers and their employee utilization representatives in acquiring a better understanding of the supervisor's role and in providing the kind of staff help to supervisors that makes for better personnel management in the line organization, where it counts most. The pamphlet describes ways and means whereby the line supervisor may be more effective at managing people and meeting the personnel management responsibilities that are an essential part of his everyday job. The pamphlet answers such questions as HOW the line operator goes about keeping his employees informed, encouraging worker participation in management improvement activities, rewarding employee merit, promoting health and safety, maintaining constructive discipline, and handling grievances and complaints—all things which are essential to getting the job done efficiently, economically, and with the greatest satisfaction to all concerned.

## SECTION EIGHT

Insane Asylum Attendant: "A man outside wants to know if we have lost any male inmates."

Doctor: "Why?"

Attendant: "He says someone has run away with his wife."

"Neither Snow, Nor Rain, Nor Heat, Nor Gloom of Night Stops These Couriers From the Swift Completion of Their Appointed Rounds"



This inscription on the General Post Office in New York was dreamed up by Herodotus, quite a few years back, and the couriers still carry on! Our postman comes around regularly, three times a day, but he isn't too heavily burdened with letters from our readers, anent SERVICE SCHOOLS. We'd like to have more. So, while you're thinking about it, how about getting that item off—RIGHT NOW!



# PRODUCTS

## *designed to deflate production Costs*

As a service to OPERATING DEPARTMENTS and PURCHASING OFFICERS, ARMED FORCES MANAGEMENT will provide you with a selected list of manufacturers' products.

A Products Information Library has been established and descriptive literature, catalogues, and reference material is available to you without cost or obligation. The firms have been carefully selected, have a high standing in their respective line, and deserve consideration. They are NOT, in each case, advertisers in ARMED FORCES MANAGEMENT, but each offers you a service or product which we feel will be helpful in your operation. Operating and Purchasing departments are respectfully urged to take advantage of this service.

### How to Use Armed Forces Management's Library—

Inserted in this issue, a postage free card is provided for your convenience in requesting descriptive and informative literature. This will be forwarded to you, without obligation. Many cost saving ideas are generated by Operating Departments that have referenced information on products available. Purchasing Officials will find this type of information invaluable. All that need be done is: fill in name and address, circle that which will assist you, and drop in the mail.

**JOSEPH BEHR & SONS**—has been selected to hold the top spot in this month's *Products Designed To Deflate Production Costs* Department. This 50-year-old leader, in the new and used machine tool industry, offers to the Department of Defense more than 2000 factory re-built machine tools. This equipment, which can be purchased at half the acquisition cost, is guaranteed to factory tolerances. Cost-consciousness and supply-economy can be combined in the purchase of BEHR, name-brand equipment.

*For more facts request No. 1 on reply card*

**MORTELL COMPANY**—manufacturers of NO DRIP plastic coating, offers a free copy of the No Drip Data Handbook to interested military personnel. Condensation problems, caused by dripping from sweating tanks, pipes, walls, ceilings, air ducts and other metal installations, can be eliminated, thus saving maintenance costs and waste space problems.

*For more facts request No. 2 on reply card*

**WARNER ELECTRIC BRAKE & CLUTCH COMPANY**—The latest Warner catalogue No. 6170 contains a complete listing of electric brakes, clutches and clutch-brake combinations. Including their new line of stationary field clutches and replaceable face brakes, this catalogue is available to engineering and interested personnel.

*For more facts request No. 3 on reply card*

**BOOTH FISHERIES CORPORATION**—recently announced a new addition to its varied line of fish and seafoods. Known as Booth's Fish Sticks, these high quality items are processed in one of the most modern plants in the United States. Golden colored, taste and flavor will make this a favorite of service people.

*For more facts request No. 4 on reply card*

**THE CALDWELL COMPANY**—has just released the Adjust-A-Leg, equalizing and locking sling. This wire-rope, or chain sling, is available in various sizes, and the manufacturer finds its acceptance by industry outstand-

ing, having no equal in the field. This time-saver and inexpensive product eliminates double-sling methods and a single demonstration makes it a requirement for your operation.

*For more facts request No. 5 on reply card*

**SPERRY GYROSCOPE COMPANY**—late last month announced three new aircraft instruments, combining and improving upon the functions of eight or more older ones. Designed to help the pilots of today's supersonic and other high speed planes, the new instruments give improved presentation and performance of indicators, formerly used singly to indicate such things as flight direction, radio beam deviation, gyro-horizon and other information on position and direction.

*For more facts request No. 6 on reply card*

**MAUREY MANUFACTURING CORPORATION**—The world's largest manufacturer of cast iron and pressed steel FHP V-pulleys, has a staff of research and technical specialists available to the installations of the Armed Forces.

*For more facts request No. 7 on reply card*

**JOHNSON MOTORS**—offers interested military personnel the new 1955 Sea-Horse catalogue. The 5 great models for 1955 are described in complete detail and included is the famous 32-lb. 3 hp. twin Sea-Horse 3. An entirely new high in outboard quality.

*For more facts request No. 8 on reply card*

**AMERICAN CABINET HARDWARE CORPORATION**—Leaders in the building hardware field, AMEROCK offers a complete line of newly designed hardware for the Armed Forces. Engineering knowledge, combined with merchandising skill, will make AMEROCK hardware a fast moving item in Post and Ship Exchanges. Post Engineers are finding cost-saving advantages in replacing and constructing with AMEROCK.

*For more facts request No. 9 on reply card*

**ENCYCLOPEDIA BRITANNICA**—The great family treasure may now be purchased on a "Book a Month" payment plan.

*For more facts request No. 10 on reply card*

ARMED FORCES MANAGEMENT

**GREENLEE BROTHERS & COMPANY**—A time-saving tool catalogue for electricians, telephone line workers, radio-television engineers and repair men, plumbers and steamfitters as well as construction workers, is available from this manufacturer of diversified products.

For more facts request No. 11 on reply card

**NORTH AMERICAN VAN LINES, INC.**—This organization has "more agents in more cities than any other van line," quoting this leader in long-distance moving. When moving on change of station, specify North American for fast efficient transportation. Be prepared for a transfer, with the knowledge borrowed from experts.

For more facts request No. 12 on reply card

**REPUBLIC MOLDING CORPORATION**—Poly Flex Housewares, the greatest name in plastics. Republic has a catalogue for Exchange Officers, showing their complete line, including Dish Pans, Cake Cover and Plate, Crisper, Pail and Cover and other popular items.

For more facts request No. 13 on reply card

**BARBER-COLMAN COMPANY**—The IMPRESSOR, for quick, on-the-spot, hardness testing of non-ferrous metals and plastics. Simple to operate, it gives instant, dependable measuring of hardness. Operates on the principle of forcing a spring-loaded indenter into the surface, with the amount of penetration registering on a dial indicator. Tamper-proof and compact, this popular item which is used extensively in industry, only weighs 12 ounces.

For more facts request No. 14 on reply card

**OAKITE PRODUCTS INCORPORATED**—Useful facts, gathered during Oakite's years of experience in barrel finishing, are packed like #12 stones in a 10-page booklet, and cover such subjects as: Precleaning, Cutting down deburring, pickling, descaling, bright dipping and burnishing.

For more facts request No. 15 on reply card

**EKCO PRODUCTS COMPANY**—Exchange Officers will be interested in this exclusive line of

housewares, so popular with customers.

For more facts request No. 16 on reply card

**THE MAGNAFLUX CORPORATION**—has a booklet, "Finding the 'How and Where' of Lower Production Costs," which is available to Engineering Officers.

For more facts request No. 17 on reply card

**MARTINDALE ELECTRIC COMPANY**—This leading manufacturer of maintenance, production and safety equipment, has a 64-page catalogue for interested Armed Forces personnel. The DEMAGNETIZER—model D-3 which quickly and easily removes magnetism from such cutting tools as cutters, drills, saws, etc., keeps equipment free from chips and metal-slivers and is an item which Operations and Maintenance Officers require.

For more facts request No. 18 on reply card

**THE KENNECOTT COPPER CORPORATION**—This time-honored organization has a booklet entitled, "The ABC of Home Wiring." Easy to read and understand, it tells you all about home wiring—and how you can make it serve you better.

For more facts request No. 19 on reply card

**PITNEY-BOWES, INCORPORATED**—Available now to military installations is a small folding machine, electrically operated and costing less than a typewriter. Better management precludes highly-paid office workers hand-folding bulletins, form letters, announcements and forms. The little FH model can double-fold as many as 5,000 letter-sized sheets an hour.

For more facts request No. 20 on reply card

**REMINGTON ARMS COMPANY (INDUSTRIAL SALES DIVISION)**—The Remington Stud Driver is reported to be saving up to 80% in fastening time. This quick, cartridge-powered, action fastener can set as many as 5 fastening studs a minute. Electrical outlet boxes are quickly anchored to concrete or brick walls. Fastening duct hanger to concrete ceiling is no problem with this tool, weighing less than 6 pounds. A new booklet showing how to cut fastening costs is available.

For more facts request No. 21 on reply card

**SUNDSTRAND AVIATION'S**—package-type drives are being used on some of the nation's leading military aircraft for driving A-C generators. Engine speeds, from windmilling to full military thrust, are converted by this drive to hold generator frequency constant at 400 cycles plus or minus 1% under steady state conditions. Drives operating generators in parallel will divide load within plus or minus 2 KW.

For more facts request No. 24 on reply card

**MANNING BACHRODT CHEVROLET**—has a new car deal that should be of exceptional interest to returning servicemen. The firm offers big discounts on all 1955 Chevrolet models. Accessories are offered at one-fourth off. They also have a lay-away plan.

For more facts request No. 25 on reply card

**CAM A LOC—Safe Tie-Down** provides you with a new and safe tie-down method, available in many sizes and types. Safety, which has proven essential to successful operation, is yours when Cam A Loc is used. Remove the necessity for frequent stops in production, to tighten loads.

For more facts request No. 26 on reply card

**EQUIPTO, DIVISION OF AURO-RA EQUIPMENT COMPANY**—Manufacturers of factory and shop equipment for the past forty years, Equipto will send their free, illustrated catalogue, covering a wide variety of products, to interested personnel of the Defense Establishment.

For more facts request No. 27 on reply card

**BORG EQUIPMENT DIVISION—THE GEORGE W. BORG CORPORATION**, now offers fractional horsepower, totally enclosed motors, for recorders, instruments and timing devices. These synchronous and induction motors can be supplied with or without internal gear train. Borg New Standard Micropots are available in single or double shaft models. Ten-turn and three-turn potentiometers are available with double end support.

For more facts request No. 28 on reply card



# Book Reviews

by D. D. Corrigan

## SOMETHING NEW (and lovely) HAS BEEN ADDED

**Editor's Note:** ARMED FORCES MANAGEMENT'S Corrigan is not to be confused with the celebrated "One Way" Corrigan—in fact, the charming addition to our staff, who will take over this department, is the type that believes there are several approaches to every subject—even to Ireland.

We feel that we are very fortunate, indeed, to have secured the services of D.D. as a staffer and, in placing BOOK REVIEWS in her very capable hands, undoubtedly the readers will soon be looking forward to her evaluations and critiques.

This capable enhancement to our editorial department is an alumna of both the University of Alabama and Illinois. She took her training in reviewing while at Champaign, and plied her journalistic chores with the Washington Post.

D. D.'s keen perception and honest appraisal of literary values have given her reviews a quality of authenticity.

Readers, meet D. D.—

**Pointing The Way**  
A GUIDE TO MODERN MANAGEMENT METHODS, by Perrin Stryker and other editors of Fortune (McGraw-Hill, 300 pages)

How well do psychological tests work, in selecting men for promotion? Does the Air Force find films or lectures most effective in training? What is the most essential trait necessary for management positions? Should men be forced to retire?

These questions, with many other problems of management, are clearly and accurately analyzed by Mr. Stryker. Not all questions raised by management are answered by this book, simply because there are no standard rules governing situations and procedures that vary with every case and every individual. The book gives a general portrayal of methods that have changed through the years, and examples of managerial problems. Many of the new techniques, developed during World War II, are being expanded to meet today's conditions.

Fortune's Perrin Stryker is nationally known as an outstanding authority on problems of management.

The first part of the book covers the managing of men and the development of executives and Fortune's editor stresses the importance of giving credit where due and recognizing individual ability. This, supplemented

by good communication through mutual understanding between top management and employees, is conducive to increased efficiency. Developing and training executive talent is as important as teaching an airplane mechanic the fundamentals of maintenance. Job rotating, assigning promotable men to special projects, and multiple management are ways of finding talent.

Psychological tests, consultations, and self-appraisals develop logical and creative thinking because, "How a man thinks is determined predominantly by all that has gone to produce his personality, including his parents, schooling, work experience, reading, religion, nationality, and the whole subtle web of social relationships around him. He thinks with his appetites and emotions as well as with his mind."

Psychologists have known for some time that tests for skills and aptitudes do not present a complete picture, as 8 out of 10 job failures result from a lack of interest or a weakness in personality. Less emphasis is being placed on intelligent tests, and other tests are often deemed advisable, such as Standard's test for determining how well a man will stand up under a foreign environment. The Rorschach test (ink blots) is valuable in some cases to determine the basic structure of a personality, but the Army and Air

Force found results inconclusive as it fails to show what a person will do in specific situations.

An Air Force study revealed that men taught with films learned more in less time, and retained more, than those taught by lectures or manuals. Special Devices Center of Armed Forces found that fancy, overdone films annoyed the student.

Many industries are following the military plan of a general staff officer assigned to convey decisions and orders of his chief. Britain's organization planning expert, Colonel Urwick, believes that assistants should be given a dignified status and be potential candidates for the chief's job. The circular "File 13" has become quite popular in the Armed Forces. The wastebasket has become the medium of saving tons of paper from being filed with resultant savings in extra expenditures.

Editor Stryker takes a careful look at labor relations, overcommunication, the pitfalls of profit sharing, and executive compensation. This is no dry textbook, reminiscent of school days, but a factual and informative guide to methods of modern management.

**BETWEEN THE ELEPHANT'S EYES!** by Colonel Robert L. Scott, Jr., (Dodd, Mead & Company, New York, 243 pages, \$3.75.)

Since the days when he was a young Boy Scout, down in Georgia, Colonel Robert L. Scott had a yen for the wilds of Africa and stalking the world's largest elephant, the great Samburu. This is the story of that dream-come-true, written with all of the verve, vitality and dynamic drive that made his "God is My Co-Pilot" a best seller.

It took a long time for the Colonel to get there but when he did, he learned a great amount of the lore of the jungle. At the end, a surprise is in store for the reader which greatly, and suddenly, increases the stature of the whole book.

Having flown some four million miles, more than a million of them in jet planes, his current big ambition is to pilot a jet or rocket plane on a non-stop flight around the world, in less than twenty-four hours—beating the sun.

### Hero and Legend

**REACH FOR THE SKY**, Paul Brickhill (W. W. Norton, 312 pages, \$3.75)

If this were a novel, the average reader would scorn this story as being too fantastic. But the amazing fact is, it is a true account of Douglas Bader who, although he had no legs,



became the ace of the Battle of Britain. When nineteen, his flying instructor said, "That young man will either be famous or be killed." Time, supplemented by great courage, proved the first part of the prediction was correct.

Bader won a scholarship to the Royal Air Force College at Cranwell, where he soon became known as "super-youth" or as the "enfant terrible." In 1931 he was dared into demonstrating a beat-up of the airfield and crashed. It was necessary to amputate both legs in order to save his life. The turning point in his delirium of dope, dreams, and uncertainty came when he overheard a woman say that he was dying. When close to dying he found nothing to fear so, from that day on, he was never afraid of death. This would have a vital effect in his later life.

It was a long and agonizing struggle to adjust to the new demands of artificial legs, with sitting down, walking upstairs and, in fact, with each move requiring careful planning. Technicians had never seen a one-legged person do what he could do with none, and eventually it was possible for him to dance, play tennis, and drive a car. Golf was a sequence of falls but, after 12 spills, he found he could hit the ball. Today, it is not unusual for him to play 36 holes and he has earned a low handicap of four. A day of golf seemed a very remote possibility, in those first few years following the accident.

Bader's first and foremost thought was to return to the Air Force and with nothing in the King's Regulations that covered his case, he was turned down as being unfit to fly. He had flown many times since his accident, but officials deemed him too great a risk. When war was imminent and rules were relaxed, Bader was allowed to re-enter the Royal Air Force. His advancement was rapid, first to section leader, then flight commander, and finally to wing commander. Fighter tactics evolved by Bader materially helped to win the Battle of Britain.

Ordered transferred, to lead a Canadian squadron of "Wild Canadians" who were noted for their allergy to any officer, the legless leader had to convince them he was a good flyer and a good manager. Bader was a good judge of people and knew how to handle men so he achieved results, with men who had the utmost confidence in his decisions.

Shot down over France, the Germans found him to be a very troublesome prisoner who, after several escapes and recaptures, was sent to

Colditz for the balance of the show. A grateful government honored him with the D.S.O. and the D.F.C.

The author, Paul Brickhill, is probably a better flyer than a writer but this fellow member of the RAF has written a vivid and inspiring story of this man who has become a legend.

**MANUFACTURING MANAGEMENT**, by Franklin G. Moore, Ph.D. (Richard D. Irwin, Inc., Homewood, Ill.—\$8.00)

Efficient manufacturing is the basis of the effective marketing policy. This is a discussion of causes and corrections and deals with both human and mechanical elements. Professor Moore recognizes that many companies still need to improve their production efficiency. The procedures he describes are industries' own solutions to the problems. He concedes that some of them may not be *perfect*, but he points out that they are working systems, constantly being revised to meet the demands of efficiency.

**ALL THE WORLD'S AIRCRAFT**, compiled and edited by Leonard Bridgman (All The World's Aircraft Publishing Company Ltd., London, also Macmillan Company, New York, 352 pages).

This annual has been published since 1909 and is the airman's equivalent of the famous "Jane's Fighting Ships." Military information is, of course, less complete than civil data but surprisingly enough, even Soviet aircraft are quite well represented. It is profusely illustrated by photographs and silhouettes.

#### Recommended Reading

**THE MAGNIFICENT MITSCHER**, Theodore Taylor (W. W. Norton, \$5.00)

The biography of the man who became head of all Naval Air Operations in the Pacific during the last war.

**SOLDIERS OF THE AMERICAN ARMY: 1775-1954**, Fritz Kredel and Frederick P. Todd (Henry Regnery, \$12.50)

A collector's item with 32 full color plates showing the many U. S. Army uniforms from 1775 to 1954, and containing information about outfits and the men who wore these uniforms.

**SONG OF THE SKY**, Guy Murchie (Houghton Mifflin, \$5.00)

A masterful and inspiring study of navigation, transportation, and communication.



Anyone that questions the size of the vast military market please read this figure: \$667 billion.

That figure—\$667 billion—represents the cost of wars to the United States since 1917. The amount is based on total expenditures for national defense during hostilities, the interest computed on the war debts incurred, and accruing costs of veterans and dependents.

The breakdown of the three wars shows that the Korean action cost twice as much as World War I. Estimated costs are War I, \$66 billion; War II, \$450 billion; Korea, \$151 billion.

**FENNER AND BEANE OR UNCLE JOE?**  
"Get my broker, Miss Jones."  
"Yes, sir. Stock or pawn?"



—and in accents sweet to

**Armed Forces Personnel**

**BIG DISCOUNTS**

on

**The New Motoramic CHEVROLET!**

**10% Discount**  
on All Models

**25% Discount**  
on All Accessories

**Lay-Away Plan Available**

For Information Write

**Joe Hume, Sales Manager**

**MANNING BACHRODT CHEVROLET**

330 S. Church

Rockford, Ill.

For more facts request No. 25 on reply card

## Supervisory Responsibilities

(Continued from page 26)

punishment.

Insuring that all employees comply with rules for prompt reporting of accidents, injuries, or other occurrences requiring reports.

Encouraging participation of employees in the exchange of ideas concerning work to be done.

Conducting meetings for subordinates to invite discussion and exchange of ideas on safer, easier, more efficient methods of operations.

Following through on employee suggestions and giving recognition for interest and participation.

Delegating and rotating responsibility and authority among your subordinates; assigning special tasks on occasion—or during your absence—such as safety or fire prevention, inspection of work areas, reporting on condition of tools and equipment, housekeeping, or general conditions affecting efficient operations.

Assigning one man to be in charge in your absence or whenever you have two or more persons working together.

Instructing new employees properly and assigning them to work with experienced men to insure their becoming safe and efficient workers.

Training each man to realize that he is a member of the working team and, as such, others depend upon him as he depends upon them.

Making prompt written requests through channels for correction of unsafe conditions which are beyond your authority to change on the spot.

Soliciting advice, information, or assistance from qualified persons or sources whenever needed.

Taking the initiative to act when the situation demands by recognizing and using good judgment based on an accurate knowledge of work being performed and existent conditions.

Good Supervision is the key to many of the problems incident to Industrial Relations. With adequate understanding and support by Management, Supervisors can do much to provide for the needs of Employees regarding self expression, recognition, and especially, the opportunity to obtain an individual sense of participation in the organization which results in enthusiasm, initiative, loyalty, satisfaction, and esprit de corps.

### WEEK END WORKER

Employer (to applicant for position who had handed in testimonials from two ministers): "We don't work on Sundays. Haven't you a reference from someone who sees you on week-days?"

### —OR ANNOYING, PLAGUING, ETC.

Elsie: "My husband is an efficiency expert in a large office."

Naomi: "What does an efficiency expert do?"

Elsie: "Well, if we women did it, they would call it nagging."



WRITE FOR LITERATURE

With an ADJUST-A-LEG Equalizing Sling, unbalanced and "hard to get hold of" loads may be handled as easily as simple loads. As the tension of the lift comes on, the legs automatically adjust themselves to proper lengths and frictionally lock in position. The load is raised level... with no fuss, no bother, no figuring—the Sling does it! Sizes ¾-ton to 50-ton.

THE CALDWELL COMPANY, INC., 3411 AUBURN ST., ROCKFORD, ILL.

For more facts request No. 5 on reply card

## Lockheed Leadership Fund's Award Program To Give 15 Scholarships

Fifteen outstanding U. S. high school seniors will win four-year college scholarships this year through an award program sponsored by the Lockheed Leadership Fund, it was announced.

The awards call for full tuition and fees plus \$500 per year for personal college expenses. They will go to students with "demonstrated or potential leadership."

Cyril Chappellet, a Lockheed Aircraft Corporation vice president and president of the Fund, announced the continuance of the Lockheed program for the third year. Forty students have won the awards in the past and now are enrolled in college.

In letters addressed to the nation's 13,000 secondary school principals, Chappellet said: "Our program is to seek demonstrated and potential leadership—leadership among fellow students, community activity, personality and citizenship as well as leadership in scholastic studies."

Scholarships are open at Massachusetts Institute of Technology, California Institute of Technology, Carnegie Institute of Technology, North Carolina State College, Rensselaer Polytechnic Institute, University of Michigan, Georgia Institute of Technology, Cornell University, Purdue University, Stanford University, Harvard University, Emory University, Pomona College, Northwestern University and University of Southern California.

## Western Union

(Continued from page 33)

reports to the public and the press. Western Union has just placed in service a 15,000 mile private wire system for the General Services Administration of the Federal government. This new, nationwide system interconnects 53 major cities and will handle more than 40 million words a year.

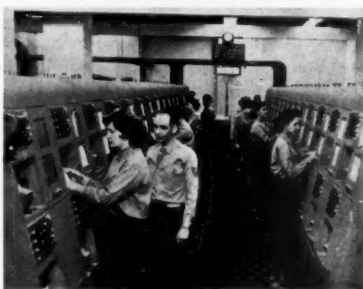
Business concerns, many of them of vital importance in defense production, also use Western Union private wire systems to expedite the movement of intra-company data, orders, reports, instructions, etc. For example, General Electric operates a 50,000 mile private wire network linking more than 150 cities; a 20,000 mile system serves 48 branches of the Reynolds Metals Company; a 40,000 mile "Bank Wire" interconnects more than 200 banks in 77 cities. Similar extensive systems serve United States Steel, United Air Lines, Armco Steel, Sears Roebuck, and many other national firms in varied lines of business.

The most recent technical advances resulting from Western Union's development and research program have been in the facsimile field. In 1949, our engineers developed the "Desk-Fax," a small compact facsimile telegraph machine suitable for general use by our customers. By means of the Desk-Fax machine in his office, a customer can send or receive a telegram just by pushing a button. These small, easily-operated and time-saving telegraph units have proved to be tremendously popular and are now in service in nearly 20,000 business offices. Additional thousands of these machines will be installed in 1955 and subsequent years, and will play an increasingly important part in speeding the nation's vital record communications. An additional 22,000 customers are connected directly with central telegraph offices by means of telegraph printing machines in service on their own premises. The total number of these direct connections—which serve materially to speed the movement of telegraphic communications—is now 42,000, or nearly two and one-half times the number of such connections in service during the war.

A similar facsimile unit, known as "Intrafax," is available on a leased basis for private intra-plant and other uses by Western Union's business patrons. Intrafax will handle copy up to 8½ inches by 11 inches in size, and will transmit it in picture form in less than three minutes, ready for immediate use upon receipt.

Many private facsimile telegraph systems are now in service and are

## USAF's Private Wire System



*Shown above is the high-speed message center in the Pentagon of the private wire telegraph system provided by Western Union to the United States Air Force. A message arriving in this center requires only the push of a button to flash it to destination.*

*This 130,000-mile network serves more than 200 Air Force stations throughout the country.*

*Similar custom-built, leased-wire systems are leased by Western Union to United States Steel, United Air Lines, General Electric, Reynolds Metals, the Bank Wire serving 192 banks in 57 cities, and many others.*

used for a wide variety of purposes.

One of the largest of these has been leased to the Federal Reserve Bank of New York, and serves 15 large banks in that city. Over a billion dollars a day in fund transfers flow over this system.

At Pan American Airways, Intrafax provides 9 key departments on various floors in the airline's Long Island City headquarters with instantaneous two-way facsimile service. The system also extends to Pan American's New York City Reservation Office and its executive offices in the Chrysler Building, both about three miles away.

The aeronautical industry is making increasing use of Intrafax to speed internal communications. American Airlines, Bendix Aviation, Consolidated Vultee and Grumman Aircraft are using Intrafax, and the systems range in size from Pan American's twin networks of 25 stations in New York and Miami to the two-station system linking departments of Grumman Aircraft at Bethpage, New York.

Intrafax is also in service at the County Trust Company of White Plains, New York, where it is used to verify check signatures and to handle other transactions between branch banks and the central bookkeeping department.

This new facsimile device provides many advantages, including error-free

transmission, the handling of copy that cannot be transmitted by any other means, and a method of operation that requires no special skill and involves a minimum of training. The American Express Company, Aetna Life, DuPont, Eastman Kodak, The Ford Motor Company, Shell Oil, Standard Oil and U.S. Steel are just a few of the growing list of business concerns that are now turning to Intrafax for handling various forms of written, typed or printed matter quickly, accurately and at low cost.

Another Western Union facsimile development, called Ticket-Fax, has been designed especially to speed the handling of tickets and reservations for railroads, air lines and others with related problems. The Ticket-Fax, which has produced considerable interest in transportation circles, will reproduce a Pullman reservation, air line or railroad ticket or similar document in 8 seconds, ready for immediate delivery to and use by the passenger.

The recent and spectacular advances in the field of electronic computing equipment, and that of integrated data processing, are sure to produce new and important tools for management use in the very near future. Western Union is already handling the telegraphic transmission of integrated data for a number of its patrons, and now has plans under way for the adaptation of its private wire teleprinter switching systems to transmission of such data for processing at central points. Functions will be added to present and future teleprinter leased systems that will permit either their exclusive use for specialized data transmission or the interpolation of data processing material along with regular communications transmission.

Western Union's plans for getting things done in the next several years include continued improvement in the quality of its service, expansion of its private wire services for government and industry, a new and greatly improved form of high-speed facsimile transmission that is already well beyond the laboratory stage, and a continuing program of technological development. As these and other Western Union management objectives are obtained, the government, the armed forces, and business generally, which count so heavily on rapid record communication in so many ways, will better be enabled to do their own jobs.

### BERCEUSE

If a speaker doesn't strike oil in his first two minutes he might as well stop boring.



## Hire Them Young

(Continued from page 15)

ments with the medical profession at other locations.

The Employees Benefit Association was established in 1907 and provides financial assistance in times of accident, illness, and death to members. The members contribute to this activity and it is self-supporting.

Organized safety programs reduce the accident hazards of faulty equipment as well as faulty human behavior. Today the Safety Section of the Industrial Relations Department devotes its full attention to the reduction of accidents.

The policy of guaranteed weekly hours of work, for hourly-paid employees in meat packing plants, was established in 1911 and even today—44 years later—the practice of guaranteed pay is rare in industry. Swift guarantees 36 hours of pay for each work week.

In 1913, a program for sickness and disability payments to employees was inaugurated whereby employees, unable to work because of illness or non-compensable accident, receive payments for a length of time based on their length of service.

A non-contributory pension plan, applicable to all employees of the company, was established in 1916. Today there are 5,500 employees and 3,350 widows and orphans on the retirement rolls, making a total of 8,850 persons who are receiving payments from the pension fund.

Other benefits include vacations ranging from one to four weeks with pay, for hourly-paid and salaried workers, a plan which has been liberalized several times since its inception; comprehensive hospital-medical-surgical-polio coverage, at company expense, for employees and dependents; a sound wage incentive plan, through which employees at the meat packing plants have the opportunity for increased earnings for extra effort in production; a Suggestion Plan with financial rewards for ideas; Group Life Insurance, on a yearly contract basis, available to members of the Employees Benefit Association and co-operation with employees in the establishment of credit unions.

Still other policies in effect are designed to relieve employees from loss of income while serving as jurors or witnesses in court cases, and provide assistance, financial or otherwise, to the dependents at the time of an employee's death. These customs have been developing, in some form or other, since the beginning of the company.

Because of current interest in retirement benefits, the Swift plan, which is set up as a pension trust, has been studied by several industries. All employees of the company, and certain of its subsidiaries, who fulfill the requirements are eligible for retirement on pension. The minimum service requirement is twenty years of continuous service, and the normal retirement age is 65.

The amount of pension is equivalent to 1½ per cent of each year's earnings. These payments are made in addition to the Federal Old Age Benefits for which the retired employee is eligible.

Provisions also are made for pensions for the widows and orphans of eligible employees.

Good employee relations is a two-way street for, in the final analysis, people are known by the company they keep, and a company is known by the people it keeps. If the best qualities of both the company and its people are perpetuated, the result is a successful enduring business carried on by competent, well-adjusted people.

Swift considers employee relations activities as good, sound business and the degree of success which the company has achieved is proof of that. The company buys its raw material in a highly competitive market and must pay the full market price to get livestock necessary to stay in business. It sells in a highly competitive market, and must sell at whatever price the consumer is willing to pay—there can be no holding for a better price. So, success can come only through increased efficiency, and only competent employees can assure that efficiency.



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## Contract Pilot Training

(Continued from page 29)

learning to fly, is at its lowest in the history of the Air Force. Instructor recognition programs enhance the accomplishments of the individual instructor. On-the-job and cross training keep all personnel abreast of the latest techniques and constantly improve their job skill. Supervisory and instructor training is a constant activity and it is indisputably true, that training managers to manage is good business.

A prime example of how all this blends into the efficient operation can be found in the fact that both the military and civilian components of the contract school, in 1952, were approximately twice the size they are today. In fact, the program has proceeded so well that, within two years, manning has been cut 50% with the output remaining approximately the same. Furthermore, any turnover of personnel in the military component has little or no effect on the school's operation.

How does all this affect the product which in this case is the student who is being trained? The student body, consisting of approximately 500 aviation cadets, student officers (majority of whom are ROTC graduates) and MDAP students from any of 18 foreign countries, spend approximately 24 weeks in this phase of training. During this time, each man flies around 140 hours, receives some 252 hours of academic subjects, and 147 hours of officer training. Their 24 weeks of study is a concentrated, demanding course. When they graduate, they go to either basic single-engine jet training or basic multi-engine training to put in practice their techniques of flying, transforming the aircraft to a combat weapon.

Most students are astounded by the degree of personal touch and interest displayed by instructors and supervisors in the contract phase. "What kind of an instructor would you like?" is a question many of them are not prepared to answer. A branch of the United States Air Force School of Medicine is evaluating personality traits and the advantages gained by assigning instructors and students with similar personalities, thus avoiding any possibility of trait conflicts. Instructors, because of their previous military flying experience and their proven ability, instill respect and confidence. One school even went so far as to suggest instructors should write a personal letter to the parents of his student, explaining the student's progress at the time he solos. The good-will created by this action is manifested in the

many letters of appreciation received from the parents.

Another personal touch is the idea of having a civilian eat with the cadets and be on the lookout for little gripes or inadequacies that are sometimes mentioned in conversations. Doing something about these, before they become a major problem, has paid off handsomely.

The elimination rate at primary is at the lowest it has been in the history of training. As it is here, where the student first learns to fly an airplane, that most cases of inability or lack of aptitude are discovered, it is obvious that this is the place to discover them, where training in light aircraft is relatively inexpensive.

### Supervision and Control

Lest one gets the idea that the civilian contractor goes along without worrying about control and supervision, an explanation of how his operation is monitored by Headquarters Flying Training Air Force should be made. First, the military commander provides check pilots to monitor the students' progress; second, the contracting officer continually surveys the expenditure of funds; third, the entire operation is governed by standardized directives which keep all schools going in the same direction.

Within broad limitations, each contractor is encouraged to develop techniques and operational procedures aimed at increased efficiency and overall economy and to this end, and for the first time in the program, an incentive fee feature has been added to each contract for Fiscal Year 1955 which will reward contractors who are able to demonstrate efficient management. All management policies of the contractor, involving costs to the Government, are subject to the approval of the contracting officer.

Contracting officers approve positions as well as wage and salary rate ranges as established by the contractor, who sets up numerical standards and hires all employees. Standardization Boards, set up by the Flying Training Air Force, insure that training standards are met. The training curriculum is developed at Flying Training Air Force and approved through the chain of command at Headquarters USAF. Maintenance teams are continually visiting installations to insure high quality maintenance and inspection teams, of the Inspector General of the Flying Training Air Force and Air Training Command, conduct periodic inspections. Reports give the training status through all echelons. With all these checks and balances, it is amazing

that supervision and control are flexible and the prerogative for industrial type management is not and has not been infringed upon by the Air Force.

Although the schools must operate in accordance with approved procedures and training concepts, they maintain complete liberty in their individual management practices and, as in industry, the success of the endeavor is determined by the quality of the product. In the Air Force, the quality of the contract product can only be determined by the flying ability of the graduating student and certainly the quality speaks for itself, in the low attrition rate in the basic or next phase of training. Even more, the success of pilots in tactical units readily proclaims the quality of the training they receive.

Truly then, the industrial concept which built American industry has been, and will continue to be, a governing factor in Air Force planning. The inalienable need to extract the full value of each defense dollar leaves no room for poor management in the military. Contract flying training is on firm ground and is keeping pace with the new requirements of an expanding Air Force.

It might be summed up as one contractor, with over a quarter of a cen-

tury of experience in the flying business, puts it: "Training military pilots is a dynamic, ever-changing situation and methods used today become obsolete tomorrow. With the increasing complexity of modern aircraft and the training required for them, improved industrial procedures must continually replace outmoded concepts. It is management's responsibility to plan now for this more demanding and exacting equipment."

### ANSWER TO MOTORISTS FROSTY MORNING PRAYER

ELGIN, Ill.—Running on new cold-weather lubricant developed by Elgin National Watch Company, three airplane clocks functioned perfectly at 65 degrees below zero, when they were tested in a cold box, capable of 150 degrees below. Three other timepieces lubricated with ordinary oil, were stopped by this temperature. The new oil is expected to eliminate one of the greatest single obstacles to successful arctic military operations, and has successfully run jeweled timepieces at 115 degrees below zero, far lower than any obtaining on the earth's surface.

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## ARMED FORCES MANAGEMENT

## Index to Advertisers

### Borg Equipment Division—The George W. Borg Corp... Fourth Cover

Borg now offers fractional horsepower, totally enclosed motors, for recorders, instruments and timing devices. These synchronous and induction motors can be supplied with or without internal gear train. Borg New Standard Micropots are available in single or double shaft models. Ten-turn and three-turn potentiometers are available with double end support.

### The Caldwell Company.....Page 44

This company has just released the Adjust-A-Leg, equalizing and locking sling which is available in various sizes. This time-saving and inexpensive product eliminates double-sling methods.

### Cam A Loc Company.....Page 36

Cam A Loc provides you with a new safe tie-down method, available in many sizes and types. Safety, which has proven essential to successful operation, is yours when Cam A Loc is used. Remove the necessity for frequent stops in production, to tighten loads.

### Curtiss-Wright Corporation.....Third Cover

Day-in, day-out operation under every condition is proving the Curtiss-Wright Turbo Compound engine to be a real money-saver. Its greater profit power, like its greater horsepower, stems from harnessing exhaust gases to give it 20% more output or 20% more range than any other engine of its type.

### Equipto, Division of Aurora Equipment Company.....Page 47

Manufacturers of factory and shop equipment for the past forty years, Equipto will send their free, illustrated catalogue, covering a wide variety of products, to interested personnel of the Defense Establishment.

### Manning Bachrodt Chevrolet.....Page 43

Offers discount on '55 Chevrolets to returning servicemen. This big Illinois dealer also offers accessories at a savings of twenty-five per cent.

### Sundstrand Aviation.....Second Cover

A Division of Sundstrand Machine Tool Company, Sundstrand Aviation has doubled its production facilities for Constant Speed Drives, used on many of the nation's military aircraft.

## NAVY'S NEW GEAR CAN LAND PLANES IN SNOW, WATER

The Navy has developed a "universal landing gear" which will enable planes to take-off and land on various surfaces, including water, snow and heavy mud.

The new gear is the result of Navy experiments during the last five years with water skis for planes. The simple device consists basically of a conventional aircraft wheel landing gear with a ski-like attachment added.

The Marine Corps has flight tested and approved the universal landing gear for use on small liaison and reconnaissance-type aircraft. Navy strategists believe the gear can also be used successfully on heavy transport and cargo-type airplanes to allow operations from temporary bases in inaccessible areas.

Pilots testing the gear on take-off

runs across water start from a short ramp or sand pit and then gain speed while skiing on the surface of the water. Planes have made "drop in" landings on water with the device. The aircraft continues across the water's surface to make a complete halt on the ramp.

Although the new gear has no static buoyancy of its own, tests on airplanes with weights up to 6000 lbs. indicate that the aircraft's speed across water can be slowed to less than 15 m.p.h. before a "water stall" occurs.

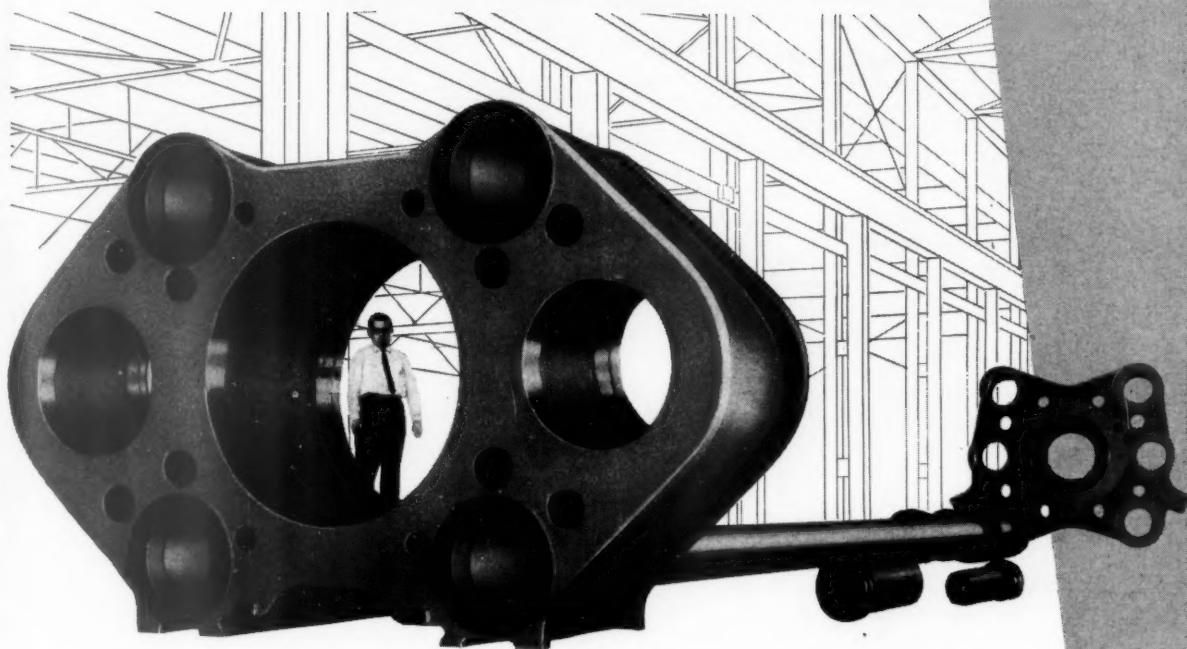
### SANTA WAS GOOD?

During a traffic snarl, a horn-tooter began blasting his horn. A man in a car alongside looked over and politely inquired: "What else did you get for Christmas?"

—Workman Service



# WORLD'S LARGEST Horizontal Steel EXTRUSION PRESS



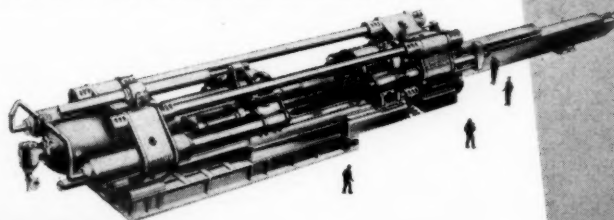
## Joint U.S.A.F. Air Materiel Command — Curtiss-Wright Development Designed to Speed U.S. Industrial Production

Completed on schedule after four years of intensive teamwork development, the world's largest horizontal steel extrusion press is now being installed at the Metals Processing Division of Curtiss-Wright at Buffalo, N. Y.

This 12,000-ton press, designed and built by the Loewy Construction Company, is capable of extruding 9,000 lb. billets to 40 foot lengths. It can handle steels, titanium, or non-ferrous alloys, and is supported by full supplementary processing equipment and a die shop — plus a staff of experienced metallurgists and product design engineers.

Created as part of the government's defense program, this giant press will, by January 1, 1955, be

at the service of American industry. Design and industrial engineers are invited to consult with Curtiss-Wright on availability of this new tool in solving problems and advancing production goals beyond the capacities of conventional equipment.



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